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## Original Articles

### THE NEWER METHODS OF DETECTING RENAL INSUFFICIENCY—CRYOSCOPY AND THE PHLORIDZIN TEST.\*

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No fact in the history of medicine can be more indisputable than that the great advances of the past sixty years have been made because of the increasing activities along the lines of macroscopic, microscopic and experimental pathology. The scientific successes attained in these fields were not long in being appropriated both by the internist and the surgeon, and soon altered not only the conceptions of many diseases but the therapy as well. During these years the physiologist has not been idle, yet how slowly have his discoveries made their impress on practical medicine and surgery! No better example can be given of this than the quite recent application of blood pressure determinations to everyday work. Both the importance of the arterial pressure and the method of estimating it have been known to laboratory workers for years, yet only in the last two or three have we made practical use of the manometer.

There has also been the same apathy in applying the work of the physicist, and to a less extent, perhaps, that of the physiological chemist, but the great advances now being made, exclusive of the work on serum therapy, are along physiological and physical lines. It is, I think, safe to predict that during the next few decades, medicine will have received much from the workers in these laboratories. Not only will there be new discoveries but the older known facts will be appropriated and brought into everyday use as aids in diagnosis and treatment.

The two methods of diagnosis, to which I ask your attention to-night, have but quite recently come into use, although the principles underlying them have long been known to scientific men. They are cryoscopy and the phloridzin test. It may perhaps be truly said, that we are yet in the possession of too meager data to judge of the practical value of these methods, but considerable work is now being done along these lines and as we constantly see articles with references to these tests, it seemed, maybe, worth while to review

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as simply as possible, the fundamental laws on which they are founded and the manner of applying them. What I shall have to say is in no way original, but can be found in the monograph of Casper and Richter and the papers of Tinker, Barth, Kümmell, Strauss, and others.

During recent years there have been introduced into medical literature the terms sufficiency and insufficiency of the various organs of the body. We are to understand that these terms express whether or no the organ under consideration, regardless of diseased processes or pathological alterations which have taken place within it, be still capable of performing its share of the work of the human economy. Thus Stokes introduced the term "heart sufficiency" to denote the work value of the cardiac muscle, and Rosenbach has used the expression "stomach sufficiency" to indicate the digestive power of the stomach, in its relation to the needs of the body. This "work value" as we may call it, is not therefore an absolute but a relative quantity.

The study of this question, then, is a physiological one, for in answering the question, "Is this or is that organ sufficient or insufficient?" we have only to ascertain whether or no it be fulfilling its physiological function to the extent necessary to maintain health. Hence the term so much used by the Germans—"functional diagnosis." It was Senator, of Berlin, who first brought forward at the *Verein für innere Medizin* (1892), the idea of the functional diagnosis of the diseases of the kidney.

The kidneys being paired organs, we have two questions brought before us.

1. Are the kidneys, taken together, in such a condition that they can carry on

sufficiently the work of the elimination of waste products?

2. Is one kidney, alone, sufficient, the other being diseased?

Suppose, for example, we have a tuberculosis or a pyonephrosis of the right; it is not enough to know that the left, plus the functioning, more or less healthy portion of the right, can carry on the work, but if operative relief is to be sought, we should know beforehand whether the left alone will be sufficient, else the removal of the right may cause the patient to die of uræmia. On the "work value" of the supposedly healthy kidney rests the decision whether a nephrectomy or a nephrotomy shall be done, and it is by the study of the blood and the urine that we gain this most valuable information.

Formerly we studied the urine alone, and it was our effort to examine it from as many different points of view as possible, taking not this or that finding alone into consideration, but basing our judgment on the points in the analysis in their relation one to another. Thus, we consider the twenty-four hour amount, the reaction, the specific gravity, the absence or presence of albumen, and the amount of urea. In rarer cases, where more accuracy is required, the quantitative estimation of the total nitrogenous excreta and of the salts is made. Even, however, under normal conditions all of these factors may vary, as for example, the urea, which may be anywhere from 20 to 30 gms., a variation, as Tinker says, undoubtedly much greater than that of the total excreta of the urine. We know how closely allied is urea to uric acid, hippuric acid, etc., and that to determine but one of the bodies is but a partial test. How ideal would be a method which

would give us, in one test, an indication of the total amount of waste matter in the urine and so an index of the working value of the kidneys, provided that test were simple and had no limitations. Such to a certain degree is the new test afforded by cryoscopy, which, in addition, gives most valuable information as to the condition of the blood.

It is, of course, well known to everyone that solutions of various salts freeze less readily than distilled water, for we are all familiar with the difficulty of freezing solutions of common salt. In 1882, Raoult undertook a systematic study of the freezing points of various substances in solution, and gave to the method the name, cryoscopy, from the Greek meaning "frost." Based on his investigations Raoult formulated three laws as follows:

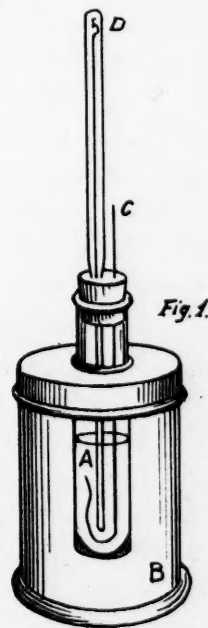
1. Substances, solid, liquid or gaseous, when dissolved in a liquid, lower the freezing point of that liquid.
2. The lowering of the freezing point is proportional to the amount of the substance dissolved, or, in other words, to the molecular concentration.
3. When various substances are dissolved in the same liquid, the lowering of the freezing point is equal to the sum of the freezing points of the substances, when separately dissolved.

With minor exceptions these laws have been found to be valid.

As far as medicine was concerned, these valuable researches went unheeded from 1882 until 1898, when Koryani, of Budapest, gave to the world an account of the studies which he and his pupils had made on the freezing points of many animal secretions. Koryani was quick to see the value of this method in diseases of the kidney, and to him belongs the credit of introducing it into medicine.

Now let me recall for a moment the phenomenon of diosmosis, first investigated by the physicist, Dutrochet. We are all familiar with the law of osmosis—namely, that liquids separated by an animal membrane diffuse according to their molecular concentration. The freezing point, as we have just seen, also depends upon the molecular concentration, hence cryoscopy furnishes a means of testing the condition of the renal tissue, and did the excretion of urine depend solely on this physical principle of osmosis, the determination of the freezing point of the blood on the one hand, and of the urine on the other, would give absolute evidence as to the membrane separating these liquids; in other words, the functioning renal epithelium. Despite the other factors concerned, these determinations furnish most important evidence.

The apparatus used for the determination of the freezing point is that of Beckmann (Fig. 1). It consists of an outer jar, B, in which the freez-



ing mixture of ice and salt is placed. Suspended in the jar is the tube, A, and projecting into this is a wire stirring rod, C, and a thermometer, D. This thermometer is graduated in one-hundredths

of a degree centigrade, usually from one degree above to four degrees below zero. The scale is sufficiently coarse to allow of the reading of 1-200 of a degree.

Heidenhain's modification differs only in having an extra tube around the tube A, thus providing an air space between the liquid to be tested and the freezing mixture, so that the cooling will be more gradual. There is also a somewhat simpler apparatus in which the freezing is done with carbon dioxide gas.

Before using the thermometer it must be tested by taking the freezing point of distilled water, and any variation from the zero point noted, subsequent reading being corrected by this difference.

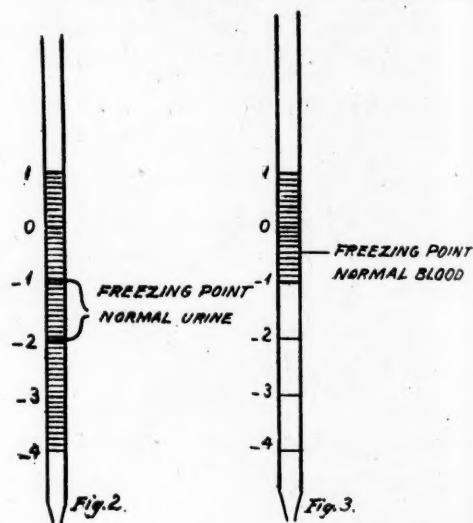
The ice and the salt, in large pieces, are placed in the jar in alternate layers, and from 10 to 20 cubic centimeters of the fluid to be tested poured into the inner tube. While the solution is cooling it is constantly stirred by means of the rod, to insure a thorough mixing and a uniform temperature throughout. The mercury at first sinks below the freezing point, but as congelation takes place it again rises and the freezing point read.

For the determination of the condition of the kidneys, cryoscopy of both the urine and the blood is employed.

By the examination of a large number of normal cases the freezing point of the urine has been found to vary between 0.9 and 2.0 degrees, and when the molecular concentration diminishes sufficiently to cause a freezing point above 0.9 it is an indication of renal insufficiency. The freezing point of a urine, below that of distilled water, is usually indicated by the Greek letter  $\Delta$ . Figure 2 is a graphic representation of the normal variation in urine.

Conversely, when renal insufficiency exists, waste products are retained in the blood and its freezing point is lowered. The freezing point in health, despite the variations in the specific gravity (1035 to 1068, Lloyd Jones) is remarkably constant. It varies but 2-100 of a degree and is between 0.57 and 0.55, 0.56 usually being taken as the normal. This

is shown in Figure 3, and is indicated by the Greek  $\delta$ . When it sinks below 0.58 there are waste products in the blood and



the kidneys are not performing their work.

In testing the urine, some workers have used the fresh specimen while others, notably Claude, employ a portion of the mixed 24-hour amount.

Blood for the test is best obtained by withdrawing it from an arm vein, by means of an aspirator, observing all the points in technic, as in making blood cultures. It is not necessary to whip the blood, and not less than 8 c.cm. should be used, better 15 c.cm. if it can be conveniently obtained.

While all this seems to involve much labor, it can be done, as Tinker says, in 45 minutes and is not therefore more time consuming than many other clinical methods.

Now, the determination of the freezing points of the blood and of the mixed urine answers the first question, "Are the kidneys, taken together, in such condition that they can carry on sufficiently the work of the elimination of waste products?" In many medical cases and in obstetrical work this gives all the neces-



sary information, but it is in the unilateral kidney affections, where the question of the operative interference comes up, that the method gives the most valuable help. Thus far we have not answered the second question, "Is one kidney sufficient, the other being diseased?" This is done by also studying the freezing points of the urine of the two kidneys, separated by ureteral catheterization. As Barth puts it, "the freezing point of the urine from the diseased kidney is less than that from the sound or partially diseased, and the greater the difference (one side being near normal) the greater the pathological process on the diseased side."

#### THE PHLORIDZIN TEST.

The phloridzin test, while not giving, on the whole, as valuable information as that furnished by cryoscopy, is still a helpful procedure in comparing the work done by the two kidneys. It is of use only in connection with the catheterization of the ureters.

This test is based on quite a different principle than that underlying cryoscopy, for it depends upon the chemical change wrought by the renal tissue in reducing phloridzin into grape sugar and other substances. It has been definitely proven that this change takes place in the kidney parenchyma, and it is somewhat analogous to the production of hippuric acid from benzoic acid and glycocoll, the one however being a reduction and the other a synthesis. In other words, a renal glycosuria is produced and by comparing the amount of the sugar formed on the two sides, we have an index of the amount of healthy tissue in the two kidneys.

Normally when 5 mmg. of phloridzin are injected subcutaneously, sugar appears in the urine after thirty minutes

and continues to be eliminated for from two to four hours.

The test, then, is made as follows: 5 mmg. of phloridzin are injected hypodermically, and the ureters catheterized. After waiting one-half hour, the urine is separately collected and the percentages of sugar calculated. The method would be valueless did we not now know that elimination by the kidneys is synchronous, a physiological point about which there has been, until recently, considerable dispute. The test is both diagnostic as to the side diseased, and to a less extent, prognostic.

The application and the interpretation of these tests will perhaps be easiest understood by briefly reviewing the findings in a few cases.

From Kümmell's last article I quote three examples of the effect of the retention of waste products on the freezing point of the blood.

1. A patient with nephritis. On admission, freezing point of the blood 0.585; second day, 0.595; day of death, with uræmic convulsion, 0.62.

2. A patient with hypertrophy of the prostate and bilateral kidney disease. First observation, blood froze at 0.63; second observation, 0.68; third, 0.78.

3. A case of double pus kidney showed, ten days before death, a blood freezing point of 0.60; 5 days before death, 0.62; one day before death, 0.67.

The complete examination in a case of right pyonephrosis, with left nephritis, from Casper and Richter is as follows:

Freezing point of the blood, 0.58.

RIGHT.	LEFT.
Freezing point—0.94.	Freezing point—0.94.
Sugar 0.	Sugar .4%.
N .196.	N .474.

In this case the freezing point of the blood was but little more than normal,

showing that the total work done by the kidneys, while not up to the standard of health, was still sufficient to eliminate most of the waste products. The right kidney was the seriously diseased one and one sees that all the figures in the "right" column are less than those in the "left."

These new methods have now been in vogue for about three years and while this is too short a time for their worth to be absolutely established, because of the comparative rarity of kidney affections and operations in any one clinic, there is nevertheless sufficient evidence to prove that they are of great value.

Kümmell, whose opportunities for testing any new procedures are unsurpassed, on account of the enormous material at Hamburg, has been an enthusiastic advocate of cryoscopy since the beginning. He considers the information obtained by determining the freezing point of the blood to be the principal factor in his wonderful reduction in mortality, which has decreased from 28% to 8%. In his last 62 nephrectomies, the mortality was

but 4.8%, due to a more intelligent selection of cases, made possible by these new methods.

All surgeons who have employed these new tests testify to their value, but more observations are necessary before their limitations can be established and their exact value determined.

A list of the principal articles on the subject is appended. By consulting these, the complete bibliography can be found.

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#### ECLAMPSIA.\*

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Since the septic character of puerperal fever has been recognized and the rules of asepsis successfully applied by the rank and file of the profession in obstetric practice, this cause of death in childbed has lost its overshadowing importance and other pathological conditions, that complicate the physiological process of labor, are receiving relatively more at-

tention. One of the most interesting of these conditions is eclampsia. It is interesting because it occurs not infrequently (once in every 300 to 500 cases) and because death claims from ten to thirty per cent. of its victims, but especially interesting because its cause has eluded a vast amount of research by the most careful and painstaking investigators. It is with the treatment of eclampsia that this paper will, for the most part,

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deal, but as treatment is bound to be influenced, if not controlled, by the theory the practitioner holds as to the cause of the malady, we will consider very briefly some of the theories that have been advanced as to its cause.

One of the earliest theories was that of Lever, that eclampsia was produced by the pressure of the gravid uterus on the renal arteries and veins. Halbertsma contended that the pressure was on the ureters. Some of the facts that seemed to support this theory are that eclampsia is more frequent in primiparæ, when the tonicity of the abdominal wall is such as to give rise to pressure; that it is more frequent in multiple pregnancies, or when the uterus is much distended from hydramnios; that the swelling of the lower extremities, in the latter months of pregnancy, prove that pressure is exerted on the blood vessels in the abdomen or pelvis; that, in some cases, post mortem examination shows dilatation of the ureters. Against this theory are the equally important facts, that patients with fibroid or ovarian tumors, where the pressure within the abdomen would be fully as great, do not have eclampsia; that patients dying from cancer of the uterus in which condition the ureters are the subject of pressure, do not have eclampsia; that a woman may go to term with one or more pregnancies not having eclampsia, to develop it in a later pregnancy; that dilatation of the ureters is not always found, post mortem; that there are other explanations for the effect of twin pregnancies and hydramnios.

A second theory was that the convulsions were caused by the pains of labor in a neurotic woman, the equilibrium of whose nervous system has been disturbed by pregnancy.

That pregnancy makes the nervous system more irritable is proven by the numerous reflex symptoms, such as nausea and vomiting, neuralgia and the psychic phenomena that are frequently present. Experiments on animals have demonstrated that convulsions are more easily produced when pregnancy exists.

That a labor pain may excite a convulsion in a woman in whom the underlying cause or causes of eclampsia exist, is doubtless true; but a large percentage of cases of eclampsia occur before labor.

That albumin is present in the urine in a very large proportion of eclamptics has long been well known. Gubler accounted for its presence by the supposition that in such a patient there is an excess of albumin in the blood, more than the nutrition of mother and child demand, and that it is eliminated by the kidneys, as it is by the kidneys of a person who has ingested a large quantity of albumin.

Caseaux attributed it to an excess of serum in the blood, and consequent high vascular tension.

Frerick said that the albuminuria was due to disease of the kidneys, and the convulsion to uraemia, using the word in its modern sense. This theory received very general acceptance for a time, but it has been observed that in some cases of eclampsia, albuminuria does not exist; that in other cases it disappears more rapidly than in any known form of nephritis, and that in fatal cases the kidneys do not always show lesions to account for this termination. It has also been shown that there is no retention of nitrogenous products in important organs. Patients suffering from chronic nephritis may pass through pregnancy without developing eclampsia.

The Traub-Rosenstien theory was, that the convulsions are caused by anæmia and edema of the brain. This theory also found many adherents, but post mortem examinations failed to substantiate it.

About twenty years ago the bacterial origin of eclampsia was suggested, but as yet no one has isolated the pathogenic germ, and the preponderance of evidence is against its existence.

More recent theories are, that it is due to some fault in the function of the thyroid gland or the ovaries. It will require much more evidence than has yet been adduced to prove either of these.

Fehling and others have advocated the theory that it is caused by the retention in the circulation of the mother of waste products eliminated by the fœtus. The fact that convulsions usually cease with the death of the fœtus is certainly valuable evidence in favor of the truth of this theory. Convulsions sometimes occur in the child soon after birth, and when the child dies, changes in its liver and kidneys, similar to those found in the organs of the mother, are often found. It is just as reasonable to suppose, however, that the poison has been carried from mother to child as from child to mother.

Stark, of Cincinnati, suggests that disease of the placenta may be the cause. He reasons that, as Claude Bernard demonstrated, the placenta had a glycogenic function, it may therefore have other chemical functions that have not yet been demonstrated, among them that of transforming or rendering innocuous waste products of metabolism, existing in a state of incomplete oxidization, from the fœtus.

That when it contains large and numerous infarcts, as it frequently does in

eclampsia, it performs this function imperfectly, and waste products escape into the circulation of the mother.

It may be said of all these theories, "not proven." Post mortem findings are neither constant nor pathognomonic. More or less evidence of nephritis, or of the action of a poison on the kidneys, is usually found. Changes of a hæmorrhagic character are present in the liver in most cases, though they be microscopic. A hyperæmia of the cortex of the cerebrum is not infrequently seen.

In the light of our present knowledge we must, therefore, conclude that eclampsia is caused by a poison existing in the blood; that the poison may be derived from the fœtus, or the mother, or both; that its presence, in toxic quantity, is due to a faulty performance of function on the part of the liver and kidneys.

The treatment of eclampsia is prophylactic and curative. During pregnancy the urine should be examined at least once a month. This is especially important in primigravidæ. If albumin is present, even in small quantity, an examination for casts should be made and the amount of urea excreted, estimated. It is important to know the amount of urine passed in 24 hours. If the urine is found to be markedly abnormal, the patient should be put on an absolute milk diet. She should avoid exposure, and where the urine is very scant, she should remain in bed. She should drink freely of lithia water and keep the bowels open with phosphate of soda, Carlsbad salts, or some other mild saline. The skin should be stimulated to do its share of elimination by warm baths. If under this line of treatment the patient fails to improve, and grows worse, the urine becoming more



scant and more heavily laden with albumin, the pregnancy should be interrupted.

When eclampsia manifests itself, the indications for treatment are (1) stop the convulsion; (2) stop the introduction of poison into the circulation, and (3) hasten the elimination of the poison already present. It will be more convenient to discuss the second indication first, and the first and third together. Schauta and others have shown that convulsions usually cease with the death of the foetus. This would seem to prove that the presence of the living child in the uterus is an important factor in the production of the poison. The second indication can therefore be at least partially met by emptying the uterus. How shall this be done? As labor pains are apt to precipitate convulsions in such a patient, she must be rendered insensible to pain. This is best done by the use of chloroform. It is unwise to keep a patient under chloroform many hours, therefore the delivery must of necessity be more or less after the manner of *accouchement forcé*. If the child is not viable, there should be no question as to the proper procedure. Dilatation should be begun with the ordinary Gooddell dilator and continued with the hand, until a foot can be secured. By judicious traction on the foot, the cervix can usually be made to yield sufficiently for delivery in a reasonable length of time. In the very rare cases in which the cervix cannot be made to dilate sufficiently, perforation and, if necessary, eviceration, can be done.

With the child living and viable, its interests must be considered. If the cervix is dilated, or dilatable with the hands, delivery can be effected by version, or the use of high forceps, according to the pre-

dilection of the operator. If the cervix is rigid and unyielding, one of four methods can be adopted: (1) sufficient dilatation of the cervix to permit of delivery can be secured by use of the powerful metallic dilator, devised for the purpose; (2) dilatation secured by multiple incision of the cervix; (3) vaginal Cæsarean section, after the manner of Dührssen; (4) Cæsarean section. The first method is exceedingly dangerous, and in the opinion of the writer should not be used. The second is only less dangerous than the first, for there is no telling how far an incision will tear, when subjected to the force necessary for delivery. The vaginal Cæsarean section is a comparatively new operation. Its value has scarcely been established. In its favor can be said that the wound is in a position favorable for drainage, and there is no incision in the abdominal wall with the consequent scar, and danger of hernia. Against its use may be said that after opening the uterus per vaginam, the child must still be delivered through the bony pelvis and over the perineum, which may be very rigid in primiparæ, as most of these patients are; the operator is largely working in the dark and the operation may be exceedingly difficult if the vagina is small. Cæsarean section is an easy operation in the hands of an expert abdominal surgeon, and should be chosen in preference to any of the other methods just mentioned, if such an operator is in charge of the case. If the patient is septic, the operation should be completed by the removal of the uterus. For the control of the convulsions, chloroform is usually the first drug employed. It is fairly efficient, it is commonly at hand, as there are few obstetricians who do not now habitually carry it in their instrument bag, it can

be readily administered to the unconscious, and it facilitates any necessary obstetric manipulation—good and sufficient reasons to account for its popularity. But, as before mentioned, its use cannot be continued indefinitely, and some less dangerous drug, whose use does not require the constant watchfulness of the physician, is desirable to prolong the sedative effect. Morphine, in doses of one-half to one grain, is given hypodermically for this purpose. In many cases it does very well, but there are some objections that may be urged against its use. Morphine checks elimination by the kidneys, bowels and skin, and elimination is to be stimulated rather than retarded in all conditions of toxæmia. It is generally recognized that its use is attended with danger when the kidneys are diseased. Chloral is a valuable substitute for morphine. Its action is not so prompt, as it cannot be given hypodermically, but it is efficient, and chloral does not appreciably interfere with elimination. It is readily absorbed by the rectum, and 40 to 60 grains is the proper dose when given in that way. Codein is less objectionable than morphine. The phosphate can be given in sufficient quantity hypodermically to be of value. Three or four grains of this salt may, with advantage, be added to the chloral given per rectum.

Blood-letting is also a valuable means of controlling the convulsions. It has usually been the practice to limit it to those cases having a full bounding pulse, but Williams has employed it successfully where the pulse was thin and weak. It is advised that the blood drawn off be replaced with salt solution, as in this way a part of the poison is removed from the body and the remainder diluted.

The objection to bleeding is that these

patients have blood of a poor quality to begin with. By removing some of it, whether the deficit be supplied at once with salt solution, or the blood be allowed to get it as best it can from the tissues of the body, the quality is still further reduced. If the poison can be removed from the blood without impoverishing that fluid, it is certainly better to do so. The elimination of the poison may be hastened by stimulating the action of the kidneys, the bowels and the skin. Brisk purgation is to be secured as promptly as possible. A simple, or purgative enema may be first given, to be followed by a compound jalap powder, or 10 grains of calomel, followed in an hour by Epsom salts. If the patient is unconscious, croton oil may be dropped on the tongue. The kidneys may be stimulated by the use of cups over them, followed by hot applications. Clonoin is warmly recommended by Edgar for this purpose.

The skin may be made to act by the hot pack or the hot air bath. The liver, the kidneys and the skin may all be effectually stimulated by the use of a single drug, veratrum viride, which also lowers blood pressure, like bleeding, and acts as a powerful spinal depressant, like the narcotics. By its judicious use, the first and third indications for treatment are so fully met that the second (emptying the uterus) becomes less urgent, so that it is seldom necessary to resort to the more radical methods mentioned, and in this way the dangers of trauma, shock and sepsis are to a great extent avoided.

Fearn, of Brooklyn, recommended veratrum in eclampsia in an article published in the *American Journal of Obstetrics* in 1871. Jewett read a paper on its use before the American Gynecological Society in 1887, and Reamy read one before

the same society in 1895. Numerous other articles on the subject have appeared in various medical journals. It is being used by an increasing number of practitioners as the years go by, but has not yet attained the popularity that one would have expected from the hearty way in which it is recommended by those who have faithfully tried it. Three reasons probably explain this fact. 1st, it is an American product and recommended by American practitioners. Had its value been discovered by some continental celebrity, it would have been tried by everyone. Medical lore travels slowly from West to East. 2nd, for a number of years past it has been the fashion in medicine to decry the use of cardiac sedatives, under all circumstances. 3rd, the dangers of its use have been greatly exaggerated. Men who daily perform the most dangerous surgical operations will hesitate to give this drug, even for a desperate disease requiring a desperate remedy. The fact that it has been used in this condition by a considerable number of practitioners for more than thirty years without causing a death, is sufficient proof of its safety. According to the investigations of H. C. Wood, *veratrum viride* is a powerful spinal and arterial depressant, exerting little or no direct effect upon the cerebral centers. Under its action, the increased functional activity of the skin is greatly increased; but as this is a necessary result of the profound arterial depression, there is no reason for believing the drug has any specific influence on the perspiratory glands.

In a similar manner the excretion of bile is often indirectly increased by *veratrum viride*, through the severe vomiting which it induces.

American hellebore undoubtedly low-

ers animal temperature very decidedly, but whether directly or indirectly, has not been determined.

Clinically, *veratrum* slows the action of the heart, lowers blood pressure, causes muscular relaxation, stimulates secretion by the kidneys, the skin, the salivary glands and the liver. That the effect on the liver is not all due to the vomiting is proved by the fact that bilious stools frequently follow its administration in doses that do not cause vomiting, and moreover, as Isham has observed, the quantity of bile vomited under the use of full doses is greater than ever occurs from the use of simple emetics or from "biliousness." According to Isham, the increased flow of urine following the use of *veratrum* does not manifest itself for 24 hours, and then it lasts several days. I think when the diuretic effect is so slow in making its appearance, it is because the vomiting and purgation have removed a large quantity of fluid from the body and there is little left for the kidneys to eliminate. That the effect is usually quite lasting cannot be doubted.

*Veratrum* has been used successfully in the treatment of convulsions in both children and adults.

In the treatment of eclampsia, to obtain from *veratrum* the benificent results it is capable of giving, it must be used boldly. The dosage is to be measured by the pulse beats and not by the number of drops of the preparation administered. To lower the pulse rate to 60 and keep it in that neighborhood must be the aim of the practitioner. It is best administered by deep subcutaneous injection. There may be other preparations equally reliable, but Norwood's tincture is the one the writer has always used. Twenty minims is a good initial dose in eclamp-

sia. If the desired effect is not obtained, 10 minims more are to be given in half an hour, and this dose repeated as often as is necessary. While a patient is under the influence of veratrum, the head must be kept low. If the foot of the bed be elevated, it is surprising what doses can be administered with safety.

Morphine and alcohol are both said to be reliable physiological antidotes. In the treatment of eclampsia most authors recommend that veratrum be reserved for those cases with a full bounding pulse. A pulse of this character may furnish an extra indication for its use, but it can be administered with safety and with advantage when the pulse is weak and thread-like. The writer has so often seen the

weak and rapid pulse of sepsis improve under its use that he has no hesitancy in advising that it be given, when there are indications for it, regardless of the state of the pulse.

He believes that veratrum is indicated in every case of eclampsia. He believes that while many cases will recover under other treatment or under no treatment, and some die in spite of all treatment, that veratrum is the most efficient single remedy known. He believes that other measures should be adopted at the same time it is being used, but that to treat eclampsia without veratrum is like trying to win a battle with only infantry when it is artillery that is required.

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### SOME INTERESTING DEVELOPMENTS IN OPHTHALMOLOGY DURING THE PAST YEAR.\*

WALTER R. PARKER,  
Detroit.

In speaking of the new and interesting things in ophthalmology for the past year, I shall first speak of the therapeutics. Adrenalin chloride certainly has the most sensational as well as most useful place among the newer therapeutic agents. No agent since the advent of cocaine has been so gratefully received either in this country or abroad. The results from its use in iritis and glaucoma are conflicting and it should be used with caution. The use of atropine is a contraindication for the use of adrenalin in the eye, as the opening up of the tear duct allows the atropine to flow freely into the tear sac and nose, leading to atropine poisoning.

Argyrol, like all other substitutes for nitrate of silver, has fallen far short of the claims of its ardent advocates. It seems to be the best substitute thus far offered, however, and may find a permanent though limited use in ophthalmology.

Large doses of the salicylate of soda have been generally accepted as giving the best results, the rule being to give one grain per pound of body weight per day.

Subconjunctival injections of sodium chloride, sublimate, mercuric cyanide in varying strength have been used for herpes, interstitial keratitis, inflammation of the uveal tract and in scleritis with varying success for many years. The experiments for the past year, however,

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\*Read before the Detroit Academy of Medicine, Jan. 26, 1904.



seem to prove that the bulk of the solution employed has more to do with the results obtained than the particular drug used, and as the saline solution is less irritating than the others it is now generally employed.

One of the most serious developments of the year is sudden blindness following paraffin injection for the relief of deformities of the nose. I have at hand the report of two cases. Hurd and Holden (*Med. Record*, July 11, 1903) report the following case, "A mixture of paraffin (130° F.) and ordinary white vaseline, having together a melting point of 110° F., of semisolid consistency, was injected without the previous use of cocaine, the needle being first introduced at the tip of the nose and pushed upward an inch, and then introduced at the root of the nose and pushed down to a spot just above the former injection. At this time the patient was seen to rub his right eye, and in reply to a question, he said that he could not see with it. A little later ecchymoses appeared about the tip of the nose, indicating that a vein had been punctured. Twenty-five minutes after the injection, examination showed dilation of the right pupil and loss of response to light. The retinal veins were normal. The main inferior branch of the central artery and its divisions, however, were empty and collapsed, being recognizable only by the faint white outlines of their lateral walls. The main superior branch contained some blood, but when gentle pressure was made on the eyeball, the blood column here broke up and the blood flowed backward into the central artery." Within three hours retinal oedema became marked, and the "usual red spot of the macula" was plainly seen. Energetic treatment which consisted in inhalations

of nitrate of amyl, massage of the globe, and administration of digitalis, and later of glonoin, was established at once but without any improvement in vision. "The obvious lesson taught by these cases is that loss of vision and even of life may follow the injection of paraffin into a vein." Preliminary inspiration might be a partial safeguard against this accident. At all events, the operation is not so lacking in danger as the frequency with which it is done to improve the appearance or increase the comfort of the patient would seem to indicate. The authors find but one similar case, that of Diser, on record.

One book has appeared during the year that is of particular interest to the general profession. Emile Javal's "Among the Blind" a book intended as much for the family and friends of the recently blind adult as for the unfortunate himself. The peculiar attraction of the book lies in the fact that the author is an ophthalmologist of world wide reputation who has himself suffered comparatively sudden blindness after middle life. Not only has he given his own experience but he had conducted an exhaustive enquiry into the observations made and the methods employed by blind people the world over.

The style is well shown in the following quotation: "One form of slavery from which the blind person escapes with difficulty, is his absolute dependence on the assertions of others. If, therefore, he does not possess the entire confidence of those about him life becomes intolerable. Never lie to a blind man, with ever so good intentions, because in attempting to do him a temporary service you will destroy in him his confidence in you and, consequently, his feeling of security. No statement is more false than that

the loss of one sense augments the acuity of others. It is contrary to the law of sensation and to our experience to hope, for example, that a blind person, by mere exercise, will hear a watch tick at a greater distance than he did when he first lost his sight. What really happens is that he learns to observe with his remaining senses facts that, before he became blind, were of secondary importance."

"The adult, becoming blind, should continue his work whenever it is at all possible and should endeavor to conquer the difficulties his blindness puts in his way. In the home life of the blind man the saying of Franklin is singularly appropriate: 'A place for everything and everything in its place.' To have oneself read to in an audible voice is one of the chief resources of the blind, but how

unsatisfactory when compared with one's own reading."

"It is not a fact that because blind people do not see the smoke arising from the lighted cigar, cigarette or pipe they do not enjoy those consolations granted to normal sighted devotees of the goddess Nicotina. Think, for example, of the number of persons blind from birth, or of those who have later become blind, who regard the after-dinner cigar as one of the necessities of life."

"In the great majority of cases the marriage of blind persons is not contraindicated so far as transmitting the blindness is concerned."

The book is not only interesting to physician and patient but the chapter on the "sixth sense" and the "psychology of the blind" will be read with interest by physiologist and psychologist.

#### MEDICAL REORGANIZATION.\*

EDWARD J. WITT,  
St. Joseph.

When a year ago, the step toward reorganization was taken, its advisability was disputed by some, owing, I am firmly convinced, to a misconception of its real purpose. All sorts of wild talk was indulged in. It was predicted that this Society would be made the dumping ground for everything and everybody that bore the name of physician; the County Society would be powerless to control its membership; that it would become merely a cog in the wheel of the greater organization, which, it was held, existed mainly for the exaltation and aggrandisement of a few. All of these bear the ear-marks

of ignorance as to the real purpose of the reorganization scheme.

The old organization was a good one and did excellent work. In view of this fact it might be profitable to stop and consider what, if anything, has been gained by this new step.

In the first place, instead of standing alone as a small unit, the County Society has become a part and parcel of a great organized movement, whereby the County Society assumes a rôle of the utmost importance. "It is the only door of entrance to the State Medical Society and to the American Medical Association for physicians, within its jurisdiction." "It is the unit of organization, the foundation

\*Read before the Berrien County Medical Society.

of, and the door to, everything above it." By this plan, membership in the higher organization is controlled absolutely, which was an impossibility under the old plan.

Another purpose of the reorganization is to break down sectarian lines within legitimate limits. A little consideration will convince us, that this is an advance step in the right direction. Narrowness of thought and vision in any walk of life is repugnant to the average intelligent mind, and is most certainly opposed to the spirit of the times. It is necessary that lines should be drawn, but when this is done so closely that everybody who thinks or acts differently than ourselves, is *ipse facto* wrong and branded a heretic, it behooves us to stop and consider whether we are just in our position. We may well congratulate ourselves that we live in an age where the spirit of tolerance is growing, and the number of those who are honest enough to recognize the fact that there may be and probably is truth in the convictions and opinions held by others, is increasing. Bringing this principle to bear upon the conditions that confront us in our profession today, it is well to recognize the fact that most so-called irregulars "became sectarians by mere chance and attended college and graduated before they really knew anything of systems of medicine. Most of them have been broadened by actual experience, until they differ from us in views and methods as little as we differ from each other, and are sectarians only in name." (McCormack.) It seems to me that there should be no objection to admitting such as these to professional fellowship, provided they renounce all sectarian affiliations, for far be it from me to advocate receiving into the fold those who continue to build along

sectarian lines. The art of medicine is too broad, too comprehensive to attempt to wall it in by a single law or fancy, however good it may be in itself.

There was a time when sectarian dogmas had a reason for existence; yes, even a value as an expression of protest against rank empiricism, excessive drugging and drastic methods so prevalent in earlier days. In this, history has simply repeated itself. In ancient Greece and Rome the same reaction against energetic treatments took place. After the lapse of time, the profession again went astray. Homeopathy with its infinitesimal doses then asserted itself. With it went a great many unwarranted conclusions, such as drugs having opposite effects in large and small doses; that symptoms alone should be treated, and that they should be treated by a drug which produced the same symptoms in large doses. While all this is unfortunately based on a fallacy, we owe homeopathy a debt of gratitude in that its votaries employed the best possible hygienic measures, and to this end much of its success is largely due.

So also eclecticism was a protest against the practice of the times which saw its sufficiency in the trite statement of the Elder Gross when he said "give me the lancet and calomel, and you can have all the rest." Happily the conditions no longer exist which brought about these protests, and the time is ripe for burying the hatchet and a coming together of physicians actuated by the true scientific spirit, which is bound by no law or ism.

This is the task that the American Medical Association has set itself. It seems to me that the profession has never taken a step that will in time more effectually break down the barriers that now separate us into different schools and unite into one

organized body all who earnestly and honestly strive to find and apply medical truth.

Then, again, the profession will be able to demand legislation, both national and state, that will result in unmistakable good to itself and the public. It will be the means of raising the educational requirements of our professional schools, and by creating a universal standard as to equipment and time of study, will produce a uniformity of product that will lead to reciprocal relations between the various examining boards, and make it possible for a reputable practitioner in one state to enter another without examination. There are today in this land of ours 147 medical schools, a large proportion of which are proprietary ones of very questionable grade, which subsist wholly on the tuition fees paid by the students. This leads to the greatest curse that the medical profession has to contend with, viz.: forcing young men into the profession unfit by temperament and education. The educational standard and equipment to which this movement is rapidly committing the profession, will wipe out of existence many of these mushroom institutions, because no institution can give a first-class medical education (as we even now regard it), and exist upon tuition fees alone.

While these hastily outlined benefits apply more especially to the profession as a whole, the County Society can exert its greatest force for good in its own county. It should bring together the practitioners of the local community and cultivate a feeling of common brotherhood and regard. As you all realize, much has been accomplished here in this respect. Physicians are, as a rule, the best and most generous members of any community; but

unfortunately, be it in city or country, owing to a spirit of rivalry, and not infrequently to jealousy, "arm length" acquaintance between doctors is often found, and instead of a word of commendation, a sneer or a criticism is planted wherever and whenever the opportunity presents. To me, the most dastardly act that anyone can perform is to undermine the confidence that patients have in their physician by making slurring remarks and passing criticisms upon his work and ability, hoping thereby to gain the client for themselves. Happily those who employ such methods are playing with a double-edged sword, and generally they are only injuring themselves. Every reputable physician should be able to call upon a fellow practitioner for consultation and help whenever required and feel that his own interest and reputation is safe, and not feel that the occasion will be taken advantage of to disparage his efforts. It is so easy to criticise a former attendant in a case. It takes no more than the brain of a fool to do that. Besides the circumstances and difficulties surrounding the case may have been, and probably were, entirely different in the earlier stages, which makes what seems at the time to be superior knowledge, lose its glamour and significance.

It might be well to recall the oath of Hippocrates in this connection: "with purity and holiness I will pass my life and practice my art." Again: "In whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption."

With these sentiments as a motto, there will be little danger of going astray or wronging anyone.



WHAT IS TO BECOME OF THE  
MEDICAL GRADUATE.JOHN L. IRWIN,  
Detroit.

The following facts, gleaned from the "Michigan Monthly Bulletin of Vital Statistics,"\* published by the State Board of Health, with the co-operation of the Department of State, Lansing, will be of special interest to the profession as a whole:

Reports to the State Board of Health by representative physicians in active general practice in different parts of this state show an increase in sickness during 1902, due to the following diseases being prevalent throughout Michigan above the average for the ten (10) years preceding:

Increase in 1902 over average for ten (10) years, 1892-1901.	
Smallpox .....	718 per cent.
Scarlet fever .....	3 per cent.
Pleuritis .....	12 per cent.
Measles .....	13 per cent.
Tonsillitis .....	4 per cent.
Whooping cough .....	2 per cent.
Membranous croup .....	225 per cent.
Enteric fever .....	6 per cent.

The same reports show that the prevalence throughout Michigan in 1902 of the following diseases has lowered the average morbidity for the ten (10) years preceding as follows:

Decrease in 1902 below average for ten (10) years, 1892-1901.	
Meningitis .....	41 per cent.
Remittent fever .....	56 per cent.
Cholera infantum .....	42 per cent.
Inflammation of brain.....	50 per cent.
Intermittent fever .....	35 per cent.
Dysentery .....	43 per cent.
Erysipelas .....	26 per cent.
Puerperal fever .....	44 per cent.
Cholera morbus .....	32 per cent.
Consumption, pulmonary .....	29 per cent.
Diarrhea .....	7 per cent.
Inflammation of bowels.....	10 per cent.

\*The Bulletin subdivides typhoid fever into enteric and typho-malarial.

Influenza .....	13 per cent.
Neuralgia .....	8 per cent.
Rheumatism .....	3 per cent.
Pneumonia .....	1 per cent.
Bronchitis .....	3 per cent.
Diphtheria .....	21 per cent.
*Typho-malarial fever .....	68 per cent.
Inflammation of kidney.....	6 per cent.

Excluding smallpox, scarlet fever and membranous croup, the increase in 1902 of the five (5) remaining diseases amounts to seven (7) per cent., while the twenty (20) diseases decreasing during the same year fall off at the rate of twenty-seven (27) per cent. Thus reducing the amount of sickness in 1902 to twenty (20) per cent. below the mean of the preceding ten (10) years.

For 1903 the same reports show that the prevalence throughout Michigan of the following diseases has raised the average morbidity for the ten (10) years preceding as follows:

Increase in 1903 over average for ten (10) years, 1893-1902.	
Smallpox .....	300 per cent.
Scarlet fever .....	36 per cent.
*Typho-malarial fever .....	22 per cent.
Pleuritis .....	21 per cent.
Measles .....	12 per cent.
Diphtheria .....	5 per cent.
Tonsillitis .....	4 per cent.
Whooping cough .....	2 per cent.
Inflammation of kidney.....	½ per cent.

The same reports show that the prevalence throughout Michigan in 1903 of the following diseases has lowered the average morbidity for the ten (10) years preceding as follows:

Decrease in 1903 below average for ten (10) years, 1893-1902.	
Membranous croup .....	60 per cent.
Meningitis .....	60 per cent.
Remittent fever .....	47 per cent.
Cholera infantum .....	43 per cent.
*Enteric fever .....	40 per cent.

Inflammation of brain.....	40 per cent.
Intermittent fever .....	47 per cent.
Dysentery .....	36 per cent.
Erysipelas .....	34 per cent.
Puerperal fever .....	33 per cent.
Cholera morbus .....	28 per cent.
Consumption, pulmonary .....	24 per cent.
Diarrhea .....	16 per cent.
Inflammation of bowels.....	13 per cent.
Influenza .....	12 per cent.
Neuralgia .....	12 per cent.
Rheumatism .....	7 per cent.
Pneumonia .....	5 per cent.
Bronchitis .....	4 per cent.

Excluding smallpox and scarlet fever, the remaining seven (7) diseases prevalent in 1903 above the average for the preceding ten (10) years show a proportionate increase of hardly ten (10) per cent., while the average decrease in the nineteen (19) above named is twenty-nine (29) per cent., making a net falling off in sickness for the year of nineteen (19) per cent.

We know that the income of physicians in general practice—political and corporation doctors excepted—depends upon the amount of sickness prevailing.

Diseases such as smallpox and scarlet fever are cared for in nearly every community by public appropriation, and treated by paid political doctors.

It will be noted from above data that the diseases, the prevalence of which the

general practitioner depends on for the bulk of his business, have, in past two (2) years fallen in Michigan *sixty-eight* (68) *per cent.* and *forty-seven* (47) *per cent.* below the average for the preceding ten (10) years.

The medical directory places the number of Michigan physicians at four thousand four hundred (4,400). To these are being added the annual "output" of graduates of the six (6) medical colleges of this state, and also the physicians who come into Michigan from other states and countries every year.

Doctors are constantly increasing in number, and sickness is falling off *annually*. What is true in Michigan is doubtless true in other states and localities. Bearing in mind the *altruistic* effort of the sanitarian, who reduces the percentage of disease, the *egotistic* effort of the medical college professor who lures the unsuspecting freshman to swell the ranks of the noble profession of medicine, and the confiding *optimism* of the said freshman who, after graduation, sits back and waits for the problematic increase in a sick rate which the sanitarian is paid to reduce and of which his erstwhile professor expects to derive sole benefit, the question forcibly presents itself: "What is to become of the medical graduate?"

### THE USE OF LARGE PROBES IN THE TREATMENT OF STRICTURE OF THE NASAL DUCT.\*

R. W. GILLMAN,  
Detroit.

One has only to consult the various text-books of ophthalmology to discover that the workers engaged in this branch of surgery are divided into two classes as

regards the employment of probes in the treatment of stricture of the nasal duct. On one side belong those who believe in the avoidance of larger probes than Bowman's No. 6 or No. 8, which have diameters of 1.5 millimetre and 2 millimetres

\*Read before the Detroit Ophthalmological and Otological Club.

respectively, claiming that these small sized probes bring about a thorough dilatation of the canal; and on the other side may be found those who insist that a full dilatation of the canal can only be established by the use of a probe with a diameter of 3.5 to 4 millimetres.

From the pen of no less an authority than Dr. Herman Knapp,<sup>1</sup> who is opposed to the use of large lachrymal probes, we read the following, as limiting the sizes adopted by him: "\* \* \* in my opinion, which concurs with that of Arlt, Czermak, and many others, not beyond No. 5, or for large adults No. 6, which widen the canal sufficiently to restore and preserve the normal function of the tear passages." Theobald,<sup>2</sup> a prominent champion of the larger probes, writes: "The absurdity of attempting, with a probe of 1.5 millimetre diameter, to restore to its normal dimensions an occluded canal which in health has an average diameter (measured in its shortest axis) of somewhat more than 4 millimetres, it would seem, should be evident to all; but experience shows that such is far from being the case."

Such contrary views, as expressed by these distinguished teachers on the treatment of an affection which we all are called upon daily to relieve, exhibit just how divided the ophthalmologists are on this question.

It is significant that almost all writers who advise against the passage of larger lachrymal probes than those of 1.5 millimetre in diameter, without exception, admit their very poor results in the treatment of lachrymal obstruction, while the surgeons who advocate the employment of the larger sized probes claim to cure nearly all of their patients.

The writer was taught never to cathe-

terize the nasal duct with a larger probe than Bowman's No. 8, and religiously adhered to this rule, for several years; but is compelled to admit the results obtained from the use of the Bowman probes in the treatment of lachrymal stenosis corresponded with the poor results of all those who follow this method in dealing with this condition. Perhaps 50 per cent. of the cases would be cured after a shorter or longer period of probing and syringing; 10 per cent. of them would be more or less benefited, while 40 per cent. of the cases remained unimproved. Discouraged at having so many failures, the conclusion sadly was reached that I was truly fortunate when a sufferer from epiphora passed my door without applying for relief. In fact, after the experience with the Bowman probes in the treatment of lachrymal obstruction, I arrived at the same position as Prof. Knapp,<sup>3</sup> who writes: "I advise patients with moderate epiphora to bear it without probing, and attend to the conjunctiva and mucous membrane of the nose. \* \* \* I leave incomplete chronic strictures alone."

Theobald was not the first surgeon to advocate the passage of the larger probes in accomplishing thorough dilatation of lachrymal strictures, but he must be given full credit for his exhaustive and scientific work begun as early as 1874. He was the first surgeon to undertake a series of measurements of the lachrymal duct with the object of ascertaining its average calibre in its normal condition. The result of his investigations showed the average size of the lachrymal duct to be 4.47 millimetres in diameter. Doctors Williams, Weber and Noyes, some few years before Theobald, placed themselves on record as urging the use of much larger probes than those of Bowman; but Theobald, with the

increasing enthusiasm founded on success, kept insisting on the use of larger and larger probes until diameters of 3.5 and 4 millimetres were reached in all cases which demanded dilatation of the nasal duct.

Thanks to the teachings of Theobald on the employment of the larger probes, the writer, for the past eight years, has looked upon lachrymal stricture with its sequela—dacryocystitis—as one of the most satisfactory ocular affections to treat, and now attacks every case with the confident assurance that a complete cure is the only result in store for the patient, provided he follows instructions; and seldom, indeed, is there the disappointment of a failure.

During these eight years I have used the "Theobald probes" exclusively. They differ chiefly from the "Bowman probes" in being more pointed at the ends, which permits those of larger size to be introduced into the lachrymal sac through the divided canaliculus. As the set comprises sixteen sizes, the smallest probe (No. 1) having a diameter of 0.25 millimetre, while the difference between the successive numbers is 0.25 millimetre, the largest probe (No. 16) has a diameter of 4 millimetres. In this connection it may be well to mention as a caution that sets of lachrymal probes are known to have been sold by the instrument makers as "Theobald's probes" having the ends so blunt as to render the larger sizes entirely useless, through the impossibility of inserting their tips into the lachrymal sac.

In dealing with a case of stricture of the nasal duct, after first slitting the upper or lower canaliculus, preferably the lower, with a Bowman's or Stilling's knife, which is usually introduced well into the lachrymal canal, a No. 5 probe is the one selected for the first dilatation, and it

rarely fails to make the passage right down through the nasal end of the duct. Occasionally, it will be found that a smaller sized probe than a No. 5 must be selected for the first probing; but, in my experience, it more often is the case that a No. 5 probe is felt so loose in the duct that at the second seance a No. 7 or even a No. 8 probe can be passed readily. However, I usually increase the size of the probe to the next higher number, at each successive visit of the patient, who is requested to call every alternate day, until No. 14 or No. 16 is reached, when the interval of time between the probings is gradually increased to 3 or 4 days, a week, two weeks, a month, and even longer periods. The probes are allowed to remain *in situ* from 20 minutes to half an hour at each sitting.

There is usually no difficulty experienced in passing probes, up to No. 12; but instances occur when considerable force must be exerted in order to pass Nos. 13, 14, 15 and 16. Rarely is there failure in passing a No. 14 probe, in any case; and, often, No. 16 must be introduced in order to procure full dilatation of the canal. As stated, much force must sometimes be exerted in catheterizing with the larger probes, but, certain cases, especially those with carious walls, fail to improve in the least, until the larger sized probes are forced through the stenosed canal, accomplishing a distinctly curative effect; and, as Theobald has remarked, the result of the forcible probing is not unlike that produced by the curetting of diseased bone in other parts of the body.

The importance of passing the lachrymal probes down through the nasal end of the duct need hardly be mentioned, as occasionally a stricture will be found at this extreme limit of the canal, and if the



probe fails to pass it all the dilating above counts for naught. I believe the non-recognition of strictures in the nasal end of the canal to be a more common cause of failure on the part of the operator than, perhaps, it is supposed to be.

Another important area, yet, it is to be feared, often neglected by the ophthalmologist, is the interior of the nose. Cases of lachrymal obstruction are usually associated with or caused by one form or another of chronic nasal affections which, of course, should receive the appropriate attention.

Since adopting the larger probes it has been my practice to discard the routine syringing of the sac in cases of dacryocystitis, looking upon this as an unnecessary

procedure. However, I order a collyrium composed of boric acid and zinc sulphate to be dropped into the affected eye twice daily.

It is my belief that many patients would escape such operations as extirpation of the lachrymal sac or lachrymal gland for the relief of obstinate and complicated cases of dacryocystitis, as proposed and practiced by some surgeons, if the lachrymal canal were thoroughly and faithfully treated by dilating with Nos. 14 and 15, and, perhaps, No. 16 Theobald probes.

1. Norris and Olivers "System of Diseases of the Eye." Vol. III, Page 907.

2. "An American Text-book of Diseases of the Eye, Ear, Nose and Throat." Page 269.

3. Norris and Olivers "System of Diseases of the Eye." Vol. III, Page 907.

#### Mechanism and Treatment of Migraine.

##### A—Mechanism.

The evidence in favor of the view that the pain of migraine is due to vasodilation of the affected area seems complete. The vascular distension in a dilated area may be reduced by—

1. Pressure on the main arterial trunk supplying it.
2. Promoting vascular constriction in the small vessels of the part.
3. Promoting vasodilation elsewhere or generally.
4. Reducing the force or frequency of the heart's beat.
5. Reducing the total amount of blood in circulation.

##### B—Treatment.

1. In unilateral migraine, pressure on the corresponding common carotid gives immediate and complete relief from the pain.
2. In bilateral occipital migraine, compression of both occipital arteries gives immediate relief.
3. In intense parietal migraine, complete cessation of pain follows compression of both temporals and both occipitals.
4. In pericranial migraine, cold lotions to the head or an ice cap, give relief by causing vasoconstriction of small vessels of cranium.
5. Vasodilation in areas other than the seat of pain is produced by hot applications to the extremities, dry cupping, nitro-glycerine, etc.
6. All drugs reducing the force and frequency of the heart, relieve the pain of migraine.
7. Hemorrhage by reducing the amount of blood, relieves also the pain.—(*Medical Record*, Feb. 27, 1904, p. 240).

#### The Blood in Acute Leukemia.

##### Conclusions.

1. There are three types of leukemia, each associated with a typical clinical picture.
2. There is every grade of transition between the blood picture and the clinical pictures.
3. When the blood picture, described by Fraenkel, is observed, it is almost certain that the case will run an acute course.
4. The presence of either of the other typical blood pictures is an assurance, not absolute, however, that the disease will run a chronic course.—(*American Medicine*, Jan. 23, 1904. Louis V. Hammon, Baltimore.)

#### Acute Lobar Pneumonia: An Analysis of 486 Cases and of 100 Autopsies.

##### Points of Interest.

1. The liability of immigrants to the disease.
2. The frequency with which people of outdoor occupations are attacked.
3. The infrequency of the rigor of onset.
4. The non-enlargement of the spleen in most cases of pneumococcus infection.—(*American Medicine*, Jan. 23, 1904; John McCrae, T. C. Fyshe, and W. E. Ainley—Montreal.)

#### The Life Cycle of Amoeba Coli in the Human Body—A Preliminary Note.

Dr. C. F. Craig, of San Francisco, believes that it is demonstrated that Amoeba Coli undergoes reproduction by sporulation and that this manner of reproduction most adequately explains the persistence of amoebic infections. These sporulating bodies appear to be encysted. If this is so, it would still further explain the persistence of such infections because encysted parasites are more resistant to injurious influences.—(*American Medicine*, Feb. 20, 1904; Chas. F. Craig).

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### Editorial

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#### GOVERNMENTAL SUPERVISION OF BIOLOGICAL LABORATORIES.

In order that the physicians of Michigan may understand the governmental supervision of biological laboratories, the following is submitted:

The question of the manufacture and sale of antitoxin has been one of considerable interest to physicians of late. It has come to our knowledge that almost invariably physicians in discussing this subject were not aware that all biological laboratories doing interstate business were operating under special licenses issued by the Secretary of the Treasury upon the recommendation of the Surgeon-General of the Department of Public Health and Marine Hospital Service, in accordance with the following Act of Congress, approved July 1st, 1902:

"An Act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes."

Owing to the length of this Act and its legal phraseology it will not be of as much interest to the physicians as the rules for inspection and issuing of licenses which were approved by a Sanitary Board, consisting of R. M. O'Reilly, Surgeon-General U. S. Army; P. M. Rixey, Surgeon-General U. S. Navy; and Walter

Wyman, Surgeon-General Public Health and Marine Hospital Service.

It will be observed that these regulations are most specific and adequate for covering all contingencies that may arise in connection with the manufacture of these products.

In this connection it may be well to call attention to the fact that municipal biological laboratories and institutions similarly organized, which do not do an interstate business, are not under the supervision of the Department of Public Health and Marine Hospital Service. We believe that it may well happen without such responsible supervision as the above that, owing to political and other conditions, there may be a repetition of the sad experience of the Municipal Laboratory of the St. Louis Board of Health.

#### INSPECTION.

1. The inspection shall be made by an inspector or a board of inspectors detailed by the Secretary of the Treasury upon the recommendation of the Surgeon-General of the Public Health and Marine Hospital Service.

2. The inspectors shall be commissioned medical officers of the Public Health and Marine Hospital Service above the grade of assistant surgeons, or chiefs of division of the hygienic laboratory of the same service.

3. The visit of the inspectors shall be unannounced.

4. It shall be the duty of the inspectors to call first upon the head of the establishment or member of the firm, stating the object of their visit.

5. The proprietor of the establishment being inspected shall extend every facility to the inspectors to aid them in their work. The inspectors shall be permitted to examine all portions of the premises, appliances, methods, stables, barns,

warehouses, records, and, if requested by the inspectors, shall be shown the methods employed in actual operation.

6. The inspectors are authorized, when they consider it necessary, to interrogate the proprietor, members of the firm, and employes of the establishment under oath.

7. The inspectors shall investigate fully the methods of preparation, storing, dispensing of, and other details in the manufacture and sale of serum, viruses, toxins, and analogous products.

8. The inspectors shall carefully examine into faulty construction and administration of establishments which would tend to impair the potency or purity of their products.

9. It shall be the duty of the inspectors to purchase in open market or, if they deem it advisable, themselves to purchase in the establishment a sample of the products then manufactured, which sample shall be examined by the inspectors for purity and potency or forwarded to the director of the hygienic laboratory for such examination.

10. It shall be the duty of the director of the hygienic laboratory of the Public Health and Marine Hospital Service to test samples sent him by inspectors for purity and potency, and the result of this examination shall be given to the inspectors, who shall give this report due weight in making their recommendations.

#### ISSUE OF LICENSES.

1. Licenses shall be issued, suspended, and revoked by the Secretary of the Treasury upon the recommendation of the Surgeon-General of the Public Health and Marine-Hospital Service.

2. When an establishment shall have been inspected in accordance with these regulations and the report of the inspector passed upon by the sanitary board of

the Public Health and Marine-Hospital Service, the Surgeon-General of the Public Health and Marine-Hospital Service shall review the findings of the board and forward same, together with his recommendations, to the Secretary of the Treasury for action.

3. The following form of license is prescribed: (Omitted.)

4. Licenses shall be good for one year from the date of issue and will not be re-issued without a reinspection, the report of the inspector to be passed upon by the sanitary board and the Surgeon-General of the Public Health and Marine Hospital Service, in accordance with the provisions of paragraph 2.

#### SUSPENSION AND REVOCATION.

When faulty methods of preparation, faulty construction, or administration of establishments are noted by the inspector, or impurities or lack of potency of products shall be demonstrated by laboratory examination, the inspector shall bring the same to the attention of the manufacturer, and if the error is not corrected within fifteen days thereafter the inspector shall forward a report of the conditions found, together with his recommendations, to the Surgeon-General, and, if the faulty conditions, upon review by the sanitary board and the Surgeon-General, shall be found to be of sufficient importance, the Surgeon-General shall recommend to the Secretary of the Treasury that the license of the offending establishment shall be suspended if the said faulty conditions are not corrected within thirty days, and if not corrected within sixty days that the said license be revoked.

E. M. HOUGHTON,  
Detroit.

## SCIENTIFIC EXHIBIT.

All members are urged to contribute to the Scientific Exhibit at the next annual meeting of the State Medical Society, May 25th, 26th and 27th, at Grand Rapids. Pathologic specimens, such as tumors and organs removed by operation, should be labeled with the name of the surgeon, a brief history of the case and a description of the operation performed. New instruments, apparatus, charts, plaster casts, photographs, skiagraphs or anything that shows advancement in scientific medicine will be placed on exhibition.

It is the aim of the committee in charge to make this exhibit an instructive feature of the meeting. The co-operation of all is desired. Intending exhibitors will please communicate with some member of the committee (see page IV) so ample space may be reserved.

THADDEUS WALKER,  
Detroit.

## PAIN IN THE KNEE.

Hoffa\* gives some very valuable points on the pathology and therapy of the frequent cases of pain in the knee occurring after a slight accident. These cases are usually diagnosed as "rheumatism," or "neuralgia of the joint." The patients are treated with massage, baths, anti-rheumatics, etc. They wander from one physician to another; go to the various hot springs; consult osteopaths and electro-theraputists without finding relief from any of these sources. Hoffa shows that most of these cases can be diagnosed and treated as one of the four following affections:

\*A. Hoffa.—"Contribution to the Pathology and Therapy of the Diseases of the Knee-joint," *Berliner Klinische Wochenschrift*, (1904, No. 1).

1. Atrophy of the quadriceps-muscle after hematoma of the joint.

2. "Derangement interne," displacement of a meniscus.

3. Lipoma of the joint.

4. Free body in the joint.

1. The atrophy of the quadriceps-muscle after hematoma of the joint is characterized by history of a slight accident, following which the patient was confined to bed for a few days with a persistent pain in the joint. The patient complained of a pain inside the patella which is caused by the lack of tension in the capsule of the knee-joint. The loosened capsule, which normally is kept at a proper tension by the extensors, gets pinched, in moving, between the condyles and patella. Examination shows the knee-joint intact and atrophy of the extensor muscles. Massage and proper exercise of the atrophied muscles will promptly cure these cases.

2. Dislocation or laceration of one or both cartilages of the joint. Symptoms are: (a) history of slight accident after which the swelling of the joint persisted, (b) impossibility of completely extending the joint, and (c) an elastic swelling on the inner or outer side of the joint, caused by the displaced cartilage. The main characteristic is the pain right in the articular fissure, where sometimes the loose cartilage can be felt. Rest will improve these symptoms, but a slight strain will cause their return.

As to treatment: Replacement of the loosened cartilage, followed by fixation of the joint, will sometimes prove effective, but the classical treatment is incision and removal of the loosened cartilage.

3. Development of the fatty tumors in the joint. This solitary subsynovial lipoma may vary from the size of a cherry to that of an egg. It is usually situated



on the internal side of the joint and is often pedunculated. Besides this solitary lipoma, Hoffa describes an inflammatory fibrous hyperplasia of the adipose tissue, normally situated on both sides of the patella ligament. Both these conditions are to be kept apart from the so-called "lipoma arborescens," which consists of the fatty degeneration of the "articular villi." The lipoma of the joint may be caused by an accident or by irritation of a loose cartilage or free body. The record of these cases show an original accident. Then after the first swelling disappeared, an elastic tumor appears, elevating the patella. Differing from number 2, this swelling is found on the sides of the patella, the upper recess of the joint and the joint fissure proper being free. Paroxysmal pains caused by incarceration of the fatty masses in the joint may also be present. The treatment should consist of excision of the fatty tumor. Hoffa mentions seven cases that were effectively cured by this treatment, after splints, baths, etc., had been tried for years.

4. Free bodies in the joint are easily recognized by well known symptoms, and can always be verified by X-ray. The treatment is surgical removal of the free body.

MAX BALLIN, Detroit.

#### Mechanism of Asthma.

Asthmatic paroxysms are due to a vasodilation of the blood vessels of the bronchial mucous membrane. This swelling of the mucous membrane may be reduced by—

1. Increase of mucous secretion.
2. Vasoconstriction in the affected area.
3. Vasodilation elsewhere or generally.
4. Reduction of the force of the heart's beat.
5. Reduction of the total amount of blood in the circulation.—(*Medical Record*, Feb. 27, 1904, p. 341).

#### Some of the Properties of Radium.

##### A—Radium Rays.

1.  $\alpha$  (alpha) rays consist of a flight of positively charged particles, consisting probably of either hydrogen or helium, projected with a velocity of about 20,000 miles a second. These rays are rapidly absorbed and are stopped by a sheet of note paper in passing through a few inches of air.

2.  $\beta$  (beta) rays are more penetrating. They consist of negatively charged particles propelled with a velocity of over 100,000 miles per second. These particles are the smallest bodies known to science. They are readily deflected by a magnetic field. They have been shown

to be identical with the cathode rays produced in a vacuum tube.

3.  $\gamma$  (gamma) rays are of an extraordinary penetrating character. They readily pass through several inches of lead or of iron and are very similar in properties to the Roentgen rays.

##### B—Heat Emitted from Radium.

Radium does emit a large quantity of heat. A pound of radium will emit heat energy at the rate of about 1/15 of a horse power, and will keep up this rate of heat emission for probably hundreds of years without any appreciable change.

##### C—Emanation from Radium.

Radium produces from itself an emanation or gas which is strongly radio-active. This can be removed from radium by heat or solution. One pound weight of this emanation will initially give out energy at the rate of about 10,000 horse power.—(*The Montreal Medical Journal*, February, 1904; E. Rutherford).

#### Late Effects of Typhoid Fever on the Heart and Vessels.

The condition of the heart and vessels in 183 individuals who have passed through typhoid fever at Johns Hopkins Hospital has been carefully studied. It is recognized that these results are based upon the analysis of too small a number of cases to justify final conclusions; the next 200 cases may considerably modify our view. Yet the fact that these 183 old typhoids are materially older, from a point of view of their hearts and arteries, than the average individual who has not had typhoid fever, would tend to support the views of those who regard this disease as an active element in the etiology of a considerable number of cases of cardiac hypertrophy and dilatation coming on sometimes in early life, as well as an important factor in the production of those vascular changes which Cazalis has happily called "la rouille de la vie."—(*The American Journal of the Medical Sciences*, March, 1904, W. S. Thayer).

#### Bursae of the Neck.

According to Verneuil, there are three fairly constant bursae of the neck:

1. Subcutaneous antethyroid or prae thyroid. This was described by Beclard and lies in the loose areolar tissue over the Adam's apple.

2. Deep subhyoid (Boyer's bursa). This was described by Malgaigne and is situated between the hyoid bone and the thyrohyoid membrane.

3. Superficial or subhyoid bursa. This was described by Verneuil and lies between the geniohyoid and the geniohyoglossal muscles.

##### Methods of Treatment.

1. General and local absorbents.
2. Simple incision and drainage.
3. Drainage and the use of a local irritant to produce adhesive inflammation.
4. Partial excision of the cyst wall.
5. Complete extirpation. This is by far the most satisfactory method of treatment.—(*The American Journal of the Medical Sciences*, March, 1904; Willis S. Anderson).

## County Society News.

### ALLEGAN COUNTY.

Allegan County Medical Society held its annual meeting in Allegan, Feb. 5th. The following officers were elected: President, Milton Chase, Otsego; Secretary-Treasurer, G. G. Taylor, Allegan; Delegate, W. H. Bills, Allegan; Alternate, S. T. Chase, Otsego. The visiting members were entertained at dinner by the local members.

G. G. TAYLOR, Sec'y.

### BAY COUNTY.

Bay County Medical Society held its annual meeting in Bay City, Jan. 11th. The following officers were elected: President, M. Gallagher, Bay City; Vice-President, R. W. Brown, W. Bay City; Secretary, A. W. Herrick, Bay City; Treasurer, C. H. Baker, Bay City; Delegate, J. McLung, Bay City; Alternate, F. E. Ruggles, Bay City.

A. W. HERRICK, Sec'y.

### CALHOUN COUNTY.

Calhoun County Medical Society held its first quarterly meeting for 1904 in Albion, Tuesday, March 1st, seventeen members being present. The new president, J. C. Borwn, occupied the chair. After the routine business was transacted, the scientific program, consisting of a study of business methods, was introduced by a paper from T. E. Sands on "Fees and Collections." The discussion which followed this paper was so long, interesting and important as to consume the allotted time of the meeting, and the other papers were held over. The general sentiment was that physicians should improve their business methods, more attention should be given to the keeping of accounts and rendering statements; fees should be so regulated as to be just to both parties, and after being earned should be promptly collected.

One new member, A. E. McGregor, was admitted. Dr. J. H. Reed, of Battle Creek, was elected delegate and F. A. Waples alternate to the State Society. The next meeting of the Society will occur in Battle Creek the first Tuesday in June.

W. H. HAUGHEY, Sec'y.

### GENESEE COUNTY.

Genesee County Medical Society held its regular meeting in Flint, Jan. 26th.

Owing to the extreme inclemency of the weather and the temporary suspension of railroad traffic, the out-of-town members were unable to attend the meeting. The storm did not dampen the ardor of the twenty that were present, however, and the papers, one on "Diphtheria," by Robt. T. Dullam, and one on "Iritis," by T. S. Conover, were enthusiastically discussed. Several interesting cases were reported.

President Rumer, in assuming the duties of his office, addressed the Society as follows:

FELLOWS OF THE SOCIETY: In assuming the office to which you have kindly called me, I wish to assure you that I fully recognize the honor and compliment implied in electing me to preside over this most scholarly body of men and women. While I may not be able to preside with the dignity of my predecessors, nor be able to address you with the eloquence, wit or learning of the other members of the Society, I wish to say that I fully recognize the honor you have done me, and trust that our scientific work and fraternal and social relations will be both pleasant and profitable for the next year.

The life of that unfortunate individual called a "Country Doctor" is a mighty lonesome one, at best, and the gatherings of this character form a red letter day in his monotonous existence, for here he forms pleasant acquaintances and professional friendships. He sees the abilities and excellencies, as well as the deficiencies and shortcomings of his co-laborers. He likewise discloses to his fellows the merit or lack of merit belonging to himself. In other words, this self comparison that takes place in the minds of ourselves must show our failings and deficiencies, and where we can profit from others. Then in this gathering where the specialist, surgeon, and general practitioner discuss questions of general interest to all, there should be none so wise but that might get some light, and none so dull but that should be able to impart some information.

Here we have a chance in good natured debate to learn to give and take in repartee and argument, which is sometimes quite pleasant (for outsiders). And right here I wish to say that we might profit by a lesson from our legal brethren, not only regarding the business end of a physician's life, but their ability to give and take those "Solar Plexus" blows from each other with perfect good nature. You can see them in the court room calling each other right angled triangles or even the hypotenuse of a right angled triangle and shaking their fists at each other and in an hour's time you may see them as happy

and friendly as cherubims. But I fear it will require a wonderfully active imagination to picture an attorney as a cherub or cherubim, whatever that means.

I think these meetings will also have a tendency to do away with much of the petty rivalry, jealousy, and distrust that is found much too often among us, and which too often impairs public confidence in us as well as giving us some very unpleasant recollections.

I must say that I would like to see at one of our meetings during the coming year a few practical papers on subjects of business interest to the members of our profession. It is a matter of pride to me and probably to all of us that there is no class of business men who devote so much of their time or donate as much of the things of this world to the less fortunate of our people as the physicians. We now, through our sanitary regulations and the result of the earnest research and study of our leaders in scientific investigation, are able to prevent epidemics of communicable diseases which formerly brought sorrow and desolation to the people, and often almost depopulated large and populous areas. Strangest of all, the medical man knows that while he is doing all of this, he is stopping his own income; is taking the bread out of his own mouth as it were. I believe that while it would not be best for us to substitute the spirit of commercialism for that of philanthropy, the spirit of selfishness for that of all-truisms, I do believe that we might devote a portion of our time we now spend in philanthropy in considering how we might best devise ways and means of bettering our own condition.

Then I have wondered many times if we would make a more united effort regarding medical legislation if we could not accomplish more than we now do. There is not a physician here in this room to-day but who ought to wield quite an influence politically in his community. The people look to you for advice when in trouble, and they will listen to you in other matters if you take the pains to talk to them. And I think that as intelligent a body of men as the physicians of this county, if standing with an unbroken front, could wield public opinion on matters of medical legislation as perfectly as one could wish. In other words I think our Society should accomplish and will accomplish many things in bettering our own condition.

These Society meetings ought to produce a firmer and more lasting friendship among its members; a means of putting the business end

of our work on a better footing; a needed relaxation from professional grinding; and an exchange of ideas that should make more successful practitioners of us all.

J. C. Willson was chosen delegate to represent the Genesee County Medical Society on the Board of Delegates of the Michigan State Medical Society and H. R. Niles was elected alternate.

At six o'clock a recess was taken and the members adjourned to the Dryden café, where a banquet was served.

H. R. NILES, Sec'y.

#### HILLSDALE COUNTY.

The Hillsdale County Medical Society held its first meeting of the new year, Jan. 22d, at Hillsdale.

##### PROGRAM.

"Exophthalmic Goitre," A. Striemer, Hillsdale. The subject was very ably handled and the latest researches were reviewed.

"The Treatment of Some of the Acute Diseases," W. H. Baldwin, Quincy.

##### Abstract—

1. Introduction. I am about to present to you a few thoughts gathered from practical experience upon this subject. By proper therapeutic treatment, medicinal and hygienic, many of the acute diseases can be aborted, the course of many more can be shortened and nearly all can be alleviated and the patient made more comfortable and complications prevented.

##### 2. Pneumonia—(a) Early Stages.

I. Calomel: Grs.  $\frac{1}{4}$  every  $\frac{1}{2}$  hour until 2 grains have been taken. This is done to open up all the avenues of secretion, excretion and elimination.

II. Epsom Salts: A liberal dose is taken one hour after the last dose of calomel is given. The purpose of this is to produce watery elimination.

III. Codeine Sulphate: The patient is given gr.  $\frac{1}{2}$ , followed every three hours by gr.  $\frac{1}{4}$ , to produce as much physiological rest for the diseased lung tissue as possible.

##### b. Fully developed cases.

I. Elimination of sacraficial products by calomel.

II. Intestinal antiseptics, calomel, and sulphocarbolates. I believe the success of this treatment is due to the power of these drugs to arouse glandular secretions rather than to their antiseptic effects.

III. Stimulation: Strychnine gr.  $\frac{1}{20}$  to  $\frac{1}{40}$  every three hours during the 24 to 48 hours embracing the crisis.

Alcohol: Given under no circumstances, in any form, because of the after depression.

Nitroglycerin: This will serve your purpose much better.

IV. Cough Sedative: Codeine sulphate throughout the disease.

V. Bleeding: Indicated under certain conditions.

3. Typhoid Fever—(a) Elimination: Bowels should be kept moving freely several times a day, keeping well within bounds of exhaustion.

(b) Antiseptic: I don't believe it is possible to disinfect the 25 feet of intestine with drug per se except to a limited extent.

(c) Increase of the natural secretions (calomel, sulphocarbolates, Tr. Iodine, Eucalyptol, Thymol, Podophyllum, Turpentine). Bile is itself a natural antiseptic. The secretions of the liver, pancreas, spleen, and intestines are checked in this disease by loss of appetite and the absence of food. These organs become congested. By the use of the above drugs this is overcome to a large extent.

(d) Conclusion: Extreme quiet, rest by drugs if necessary; the elimination and antiseptic treatment have made the prognosis of typhoid fever much better.

4. Diphtheria: The mortality has been decreased greatly under the use of antitoxin.

5. Measles: The use of diuretics, diaphoretics and cough sedatives have shortened the course of this disease by several days.

6. Whooping Cough: It yields usually in three weeks to iodized calcium.

7. General Conclusions: In the light of all this evidence, I have but pity for the man who says in this day that the acute diseases are not benefited by treatment.

"The Relation of the Appendix to Pelvic Disease," Reuben Peterson, Ann Arbor.

B. F. GREEN, Sec'y.

#### LAPEER COUNTY.

Lapeer County Medical Society held its regular meeting Jan. 13th, at Lapeer (see Vol. III, p. 90 of *The Journal*).

Mortimer Willson, of Port Huron, read a paper on "Relations of the Nervous System to Some Diseases of the Intestines."

#### Abstract—

The great emphasis laid on utero-ovarian reflexes has possibly to a degree diverted the minds of many physicians from those reflex neuroses arising from intestinal disease. I have

seen quite a number of cases among women whose nervous disorders have been referred to some disease or displacement of the uterus or its adnexa, and who have been subjected to much local treatment, whose real disorder proved on a closer study to be a chronic constipation. Some believe the bowel trouble is primary and the nervous disorder secondary, while others feel sure that the bowel trouble is the result of a nervous disorder. Intelligent treatment will cure many of these cases. Concerning treatment there should be a rest of body and mind, a change of environment if possible. The patient should be placed on a mixed diet with meat but once a day, given plenty of water and fresh fruits. Ox gall and pancreatin are the most useful drugs in this class of cases.

H. E. Randall read a paper on "Peritonitis." The doctor takes up the question of differential diagnosis and strongly urges the necessity of early diagnosis and operation in perforation cases.

W. J. Kay presented a paper on "Hydro-Therapeutics." The point of the paper is to impress the physicians that it is necessary to show how to carry out Hydro-Therapeutic treatment.

H. E. RANDALL, Sec'y.

#### MARQUETTE COUNTY.

Marquette County Medical Society held its monthly meeting in Marquette, Feb. 17th. E. H. Flynn, of Marquette, presented a paper on "Placenta Previa and Its Treatment."

When the placenta is attached, in whole or in part, to that portion of the uterus which is dilated during labor, for the passage of the child, it is called *praevia*. Some writers make four divisions of *placenta praevia*.

1st. Lateral, in which the placenta is attached toward the upper part of the inferior zone.

2nd. Marginal, in which the placental edge comes down to but does not cover the internal os.

3rd. Partial, in which the internal os is partially covered by the edge of the placenta.

4th. Complete, in which the internal os is completely covered by the placenta.

*Placenta praevia* occurs about once in one thousand cases of labor, although the figures, as to its relative frequency, are widely divergent.

The management of *placenta praevia* is a very serious business.

In obstetrical practice, nothing is more so, not excepting that of puerperal convulsions, now so well understood, as to its treatment. In *placenta*



praevia there is no fixed treatment applicable to all cases and at all times and under all circumstances.

Treatment needs to be prompt and well directed, actuated by intelligence and skill and courage; the wise obstetrician will adapt his treatment to individual cases and to conditions that may arise in each and every case. There is no safety to mother until delivery has been effected, by means natural or artificial; even after this, complete safety is not assured.

The two chief dangers to mother is loss of blood and septic infection; to the child, the risk of its life is greater. The chief principle of treatment then is promptness, and means to control excessive hemorrhage and combat septicemia.

A patient, who is suddenly attacked, in the latter period of pregnancy with hemorrhage, if only very mild, should take the recumbent position for, unavoidable as this kind of uterine hemorrhage is, still, in a measure at least, it is provoked by some bodily exertion, such as lifting, straining at stool or sexual intercourse. Its occurrence at any time in the latter part of pregnancy, demands an appropriate examination to determine the conditions of the cervix-uteri, the presence and degree of abnormal presentation of the placenta the position and presentation of the child in utero, as well as its life.

If there is no evidence of labor and no dilation of the os, all that is necessary to do is to thoroughly irrigate the vaginal canal with sterilized hot water, medicated or otherwise, and tampon the vagina, and await results.

If the labor pains are commencing, the firm application of a clean abdominal bandage will stimulate, further, these contractions, and aid to press the presenting portion of the fetus more firmly against the dilating cervical canal and lower segment of the uterine wall, now bleeding. Dilation of the cervix will soon take place, and the uterus almost surely brought into action. The membranes are now ruptured, artificially, and the presenting part of the child can then be well detected and the hemorrhage, in most instances, controlled. If further delay and danger demand active interference, the forceps may be brought into play and labor speedily finished. If it is a Breech presentation and hemorrhage is excessive, the feet may be brought down. Pressing of hips will compress bleeding vessels, and nature will herself complete the expulsion.

Abnormal presentation of fetus are relatively more common in cases of placenta praevia, because labor, then, is often premature, and the

placenta often displaces what would, otherwise, be a normal presentation.

Permit me, at this time, to refer to a quite common accident to the maternal "soft-parts" due, I think, to anxiety or undue haste in the application of the forceps, with a cervix dilatable, but not dilated, namely, the creation of a deep cervical rent, wherein the circular artery of the cervix is ruptured, bleeds very freely, enhancing the dangers of this anti-partum hemorrhage of placenta praevia. Immediate stitching of the rent parts is the only thing to do.

Personally, I have but little confidence in the use of any rubber dilator, either to induce labor or to dilate the cervical canal. A tampon, properly applied, that will control hemorrhage has been all sufficient in every case.

It seems to me that Barnes method in complete implanon of the placenta, with hand in the vagina and one or two fingers placed within the uterine cavity, as far as they will reach, insinuated between the placenta and the uterine walls, they are swept around in a circle to separate the placenta on that side, when separation has spontaneously begun, or where the attachment is least extensive complete the separation on that side, hook it down and place it closely against the opposite side; the cervix then retracts, the membranes are ruptured and delivery hastened.

The separation of the placenta, as above described, is far better for mother and child than to go through it, for the performance of any artificial delivery.

Some authors advise the operation of Cesarean section, in case of central placenta praevia, with an os closed rigid and hemorrhage profuse. Under the following circumstances this operation may be seriously considered undilated os, hemorrhage uncontrolled by the first application of a tampon, child at term and living temperature normal, patient not greatly reduced by loss of blood. I do believe that such favorable circumstances are rare, indeed. Our first intimation of such a condition is a profuse hemorrhage. Such a patient is a very poor subject for surgery and the possibility of a viable child is small.

Ergot has a limited use in this disease, for the purpose of stimulating contraction, after dilatation has occurred, and always "post-partum."

The recumbent posture ought to be prolonged several days after that of normal delivery.

W. S. Picotte, Health Officer of Ishpeming, reported that in the year 1903 there were 139 cases of diphtheria in that town with a death rate

of 9%. Antitoxin was used in almost, if not all, of the cases.

A. W. Hornbogen, of Marquette, was elected as delegate to the State Medical Society, with T. M. Cunningham as alternate. Dr. McHugh, of Ewen, was elected director, to fill the unexpired term of J. C. Anderson, of Grand Marais.

The Houghton County Medical Society, through Councilor Felch, has invited the members of this Society to their next meeting, held on the second Tuesday in March.

H. J. HORNBOGEN, Sec'y.

#### NEWAYGO COUNTY.

The Newaygo County Medical Society held its regular meeting in Fremont, Jan. 14th. After partaking of an excellent banquet, given by our President, N. De Haas, the regular business session of the Society was carried through with great enthusiasm. W. T. Dodge, of Big Rapids, read a paper on "Fractures."

##### *Abstract.*

Inasmuch as the subject of fractures is so ably and so exhaustively handled in text books, I have concluded to give my views on the treatment of a few special forms. Colles fracture is the most frequent one we have to treat. This injury should not be treated as a fracture after bones have been properly replaced. Place arm in a splint for a few days. In a week begin passive movements of joint with massage and manipulation. Perfect results follow this treatment. In the handling of all classes of fractures use simple splints and appliances. In fracture of a leg for a temporary splint use a pillow fastened on with bandages. After the swelling subsides, apply plaster cast. Fracture of femur treat with extension and counter extension. Finally do not be in a hurry to amputate. In case of doubt surround injured member with warm antiseptic dressings and wait. The shock of an amputation will be less in a few days than at the time of accident, and many seemingly helpless limbs will be saved.

The paper was well discussed by N. De Haas, G. W. Nafe, J. W. McNabb, C. Whitehead, W. A. Kuhn and F. H. Brown.

F. H. BROWN, Sec'y.

#### OTTAWA COUNTY.

The Ottawa County Medical Society held its annual meeting December, 1903, at Grand Haven. The following officers were elected:

President, H. Kremers, Holland; Vice-Presi-

dent, A. Vander Veen, Grand Haven; Secretary, D. G. Cook, Holland; Treasurer, A. Leenhauts, Holland; Delegate, A. Vander Veen, Grand Haven; Alternate, E. Hofma, Grand Haven.  
D. G. Cook, Sec'y.

#### SHIAWASSEE COUNTY.

Shiawassee County Medical Society held its regular meeting March 1st, at Owosso.

D. H. Lamb, of Owosso, presented an interesting paper on "Some Tropical Diseases." He dealt principally with malaria, diarrhoeal disorders and beri-beri, showing the last to be essentially a disease of the nervous system, as revealed by post-mortem evidence.

The Society adopted a resolution favoring the passage of a bill appropriating \$24,000,000 of national funds for the building of country roads.

CHAS. SHICKLE, Sec'y.

#### ST. JOSEPH COUNTY.

St. Joseph County Medical Society held its second annual meeting at Three Rivers, Jan. 12th. The following officers were elected:

President, T. J. Haines, Three Rivers; Vice-President, W. A. Ferguson, Sturgis; Secretary, L. K. Slote, Constantine; Treasurer, A. F. Kingsley, Centerville; Delegate, M. Sabin, Centerville; Alternate, J. R. Williams, White Pigeon.

L. K. SLOTE, Sec'y.

#### WAYNE COUNTY.

SECTION OF INTERNAL MEDICINE AND PATHOLOGY,  
MARCH 14, 1904.

"Trypanosoma; Flagellate Organism of the Blood;" F. G. Novy, Ann Arbor.

##### *Abstract—*

##### 1. Classification:

Micro Organisms	I Plant	(1) Bacteria (2) Moulds (3) Yeasts
	II Borderland organisms	(ultra visible)
	III Animal	(1) Amceba (2) Flagellates (3) Sporozoa a. Malaria b. Texas cattle fever

The most important of the Flagellates is the trypanosoma.

##### 2. Varieties of the trypanosoma:

I. *Trypanosoma lewisi* (1876): Found in blood of rats, birds, fish, frogs, etc.

II. *Trypanosoma evansi* (1888): "Surra." Found in horses in India, Manilla, etc. It is a fly disease.

III. *Trypanosoma brucei* (1895): "Nagana." Also called Tsetse fly disease. Livingstone mentioned it as far back as 1856.

IV. *Trypanosoma rougeti* (1896): "Dourine." It occurs only among breeding horses. It is found in Algeria, Egypt, etc.

V. *Trypanosoma elmassiani* (1901): "Caderas." Here you find a paralysis of the hind legs of the horses in South America. It is not a fly disease. It is probably spread by fleas or lice.

VI. *Trypanosoma duttoni* (1902): "Gambian fever."

VII. *Trypanosoma zousfana* (horse disease).

VIII. *Trypanosoma castellani*: "Sleeping Sickness." The English commission, headed by Col. Bruce, gave a very complete demonstration that sleeping sickness is caused by trypanosoma. They proved that a species of the Tsetse fly could convey this disease from man to monkeys. We may be justified in saying that "Gambian fever" is the first stage and sleeping sickness the last stage of this disease.

### 3. Summary of *Trypanosoma* Diseases:

I. They are present all over the world, save in North America. As they have not been looked for here, of course they have not been found.

II. Transmission: In many cases at least flies, fleas and lice are the carriers of this disease.

III. Growth on Cultural Media: F. G. Novy was the first to grow any of the flagellates.

(a) *Trypanosoma lewisi*: Novy in May, 1902, grew this organism on cultural media. It has been growing now 22 months and in this time it has been transplanted sixty times. It is slowly becoming attenuated, however. It is extremely sensitive and dies within 2 and 3 hours after the death of the rat in whose blood it is living.

(b) *Trypanosoma brucei*: Novy has been growing this on cultural media for 7 months and in this time it has been transplanted 15 times.

(c) *Trypanosoma evansi*: Novy got a culture of this from Manilla and kept it alive for 65 days as first generation. But was unable to transplant it as the culture was 38 days old when it reached him. This agrees with the *Trypanosoma lewisi* which can't be transplanted after 30 days artificial growth.

IV. Cultural media used; plain agar, to which had been added rabbit's blood.

V. Vaccination against the disease: This can't be done as yet successfully. In mice suffering with trypanosoma, 1cc of human blood serum or a given dose of arsenic will cause the organisms to disappear from the mouse's blood temporarily, but they return. By keeping this up an animal can be kept alive for 150 days, when without treatment they die within 5 days. Still this is not a cure for the animals; all (save 4) died eventually from the disease.

VI. Method of Movement of the Trypanosoma: It swims with its flagellum end forward; its blunt end backwards. Its motion is wavy and rotary, due to its undulating membrane or fin. It pushes its way here and there among the red corpuscles which, however, it never enters.

VII. Life History: It would seem from certain of Novy's results that the trypanosoma may be but one stage in the life history of an organism, another stage of which is much more minute and apparently invisible.

VIII. Work of Fritz Schaudinin: He has done considerable work on certain organisms (*Proteosoma*, *Halteridium* and *Haemamorba*) found in the red blood cells of birds. He found by the union of the male and female elements of the *proteosoma* and the union of the male and female elements of the *Halteridium* a trypanosoma was formed in the intestines of mosquitoes. The *Haemamorba* looks at first sight like a spirillum. After careful examination it is found to be a trypanosoma. Schaudinin suggests that spirillum diseases may be in reality trypanosoma diseases. Another suggestion of his is that perhaps yellow fever is due to the trypanosoma.

F. G. Novy exhibited, under microscopes, cultures of the *lewisi* and *brucei* and fresh blood from mice containing the same, also an agglutinated culture and a number of stained blood smears containing the different varieties.

G. L. C.

## Miscellaneous.

### NEWS ITEMS.

The American Medico-Psychological Association will hold its next annual meeting in St. Louis, May 30th to June 3rd, inclusive.

The Cheboygan County Medical Society held its third annual banquet at New Cheboygan Hotel, Feb. 10th. The attendance was large. Each and every one had a most enjoyable time.

The *Archives of Pediatrics* has absorbed the *International Medical Magazine*.

Arrangements have been made for uniting the New York College of Pharmacy with Columbia University.

Johns Hopkins Hospital is said to have lost an income of sixty thousand dollars yearly by the late Baltimore fire. The income was from stores and warehouses located in the burned district.

Isabella County Medical Society held its regular meeting in Mt. Pleasant, Feb. 10th. After adjournment, a banquet was served and the balance of the evening was spent in social enjoyment.

The Dean of Harvard Medical School says that the wisdom of requiring an A. B. degree is shown by comparing the scholarship of the classes—vastly higher in those having the degree. It follows that the qualifications of the future graduate must be higher.

Dr. Simon Pollak, at the age of ninety, after an active practice of seventy years, died at St. Louis last December. With a wide experience in general practice, for sixty years he practiced ophthalmology in St. Louis, and left a memory of encouraging speech and helpful deeds in all his associations.

The memory of the late Edmund Andrews was honored by a public meeting of the representatives of the several medical, scientific, social and religious societies, of which he had been an active member. To these was added a representative of the University of Michigan, where he gradu-

ated, and in which he had been an instructor, Dr. Victor C. Vaughn.

Dr. P. Maxwell Foshay, of Cleveland, Ohio, was married to Mrs. Emily Morgan Grim January 6th. Early in April he will move to Chicago, Ill., as the Resident Medical Director of the new branch of the Mutual Life Insurance Co., of New York. He will be remembered for his activity in connection with the organization of the medical profession, being a member of the A. M. A. Committee on this matter. His friends in Michigan wish him abundant success in both changes in his life.

### CHANGE IN MEMBERSHIP.

(Feb. 5th to March 15th.)

#### NEW MEMBERS.

G. H. Baert, Grand Rapids, Mich.  
W. H. Barnum, Fremont, Mich.  
T. B. Breck, Freda, Mich.  
H. V. Brooks, Saginaw, Mich.  
F. H. Brown, Newaygo, Mich.  
E. J. Carney, Durand, Mich.  
E. M. Chauncy, Girard, Mich.  
N. DeHaas, Fremont, Mich.  
J. O. Edie, Grand Rapids, Mich.  
F. F. Grillet, Farwell, Mich.  
L. L. Kelley, Farwell, Mich.  
W. A. Kuhn, White Cloud, Mich.  
E. P. Lockart, Norway, Mich.  
A. E. McGregor, Battle Creek, Mich.  
J. W. McNabb, Fremont, Mich.  
G. W. Nafe, Fremont, Mich.  
W. Northrup, Grand Rapids, Mich.  
S. G. Olmstead, Kawkawlin, Mich.  
W. B. Richmond, Mt. Pleasant, Mich.  
A. L. Robinson, Allegan, Mich.  
Chas. Russel, Hastings, Mich.  
W. A. Sayers, Shepherd, Mich.  
M. L. Teeple, Sand Lake, Mich.  
E. W. Tolley, Grand Rapids, Mich.  
W. J. Wall, Elba, Mich.  
L. S. Weaver, Fremont, Mich.  
R. Webb, Grand Rapids, Mich.  
F. Yonkers, Woodville, Mich.

#### CHANGE OF ADDRESS.

A. O. Boulton, Attica, Mich.  
O. J. East, Constantine, Mich.  
H. B. Farnsworth, Spokane, Wash.  
S. E. Kerby, Dayton, Wash.  
R. A. Paradise, Bessemer, Mich.



## SOME GROUPS OF KIDNEY DISEASE.

1. Disease of the kidney may occur as a secondary lesion in

Certain infectious and inflammatory diseases, as:

- (a) Typhoid fever.
- (b) Pneumonia.
- (c) Measles.
- (d) Cerebro spinal meningitis.
- (e) Erysipelas.
- (f) Sepsis.
- (g) Peritonitis.
- (h) Scarlatina
- (i) Diphtheria

} in early stage.

## I. Urinary Picture:

- (a) Albumin (small quantity).
- (b) Casts (a few).
- (c) Urea (normal in amount).

II. Pathology: A simple acute degeneration of renal epithelium.

## III. Symptoms and Signs:

- (a) No headache.
- (b) No muscular contractions.
- (c) No dyspnoea.
- (d) No contraction of arteries.
- (e) No dropsy.

IV. Prognosis: This is good; urine becomes normal; no subsequent kidney symptoms occur.

## V. Treatment: None is necessary.

2. Disease of kidneys occurs in influenza in a considerable number of cases.

## I. Urinary Picture:

- (a) Albumin (often in large quantities).
- (b) Casts.
- (c) Blood (sometimes).
- (d) Quantity—Not diminished in mild cases; much diminished in severe cases.
- (e) Specific gravity (not lowered).

## II. Pathology: Acute exudatus nephritis.

## III. Symptoms and Signs:

- (a) There are none in mild cases.
- (b) Dropsy or convulsions may occur in severe cases.

IV. Prognosis: As a rule the nephritis is transitory and the patients recover inside of four weeks.

3. In Scarlatina and Diphtheria we find three forms of kidney disease:

I. Simple acute degeneration of renal epithelium as seen in (1). This form occurs during the first week of the disease.

II. Acute exudative nephritis. This arises during the active period of the disease.

(a) Urinary Picture: Albumin (much); casts (many); blood (sometimes); quantity (decidedly reduced in amount).

(b) Symptoms and Signs: Subcutaneous dropsy; cerebral symptoms.

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## III. Post-Scarlatinal and Diphtheria Nephritis:

(a) Urinary Picture: Albumin and casts steadily present in urine; urea (diminished in amount).

(b) Symptoms and Signs: Dropsy, secondary anemia, cerebral symptoms.

(c) Prognosis: Course is subacute and protracted; it may last for months or years; the anatomical changes in the kidney are such that this organ can never return to its normal condition.

4. Disease of the kidney in yellow fever and in acute yellow atrophy of the liver:

I. Urinary Picture: Albumin (much); casts (many); blood.

II. Pathology: The kidney lesion is a destructive one. Most of the renal epithelial cells become necrotic and desquamate. Considerable exudation from the blood vessels occurs.

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IV. Prognosis: The lesions in the kidneys are so extensive that it seems as if they must have much to do in causing the death of the patient.

5. Diseases of the kidneys, caused by an endocarditis or associated with it, are separated into the following groups:

## I. Chronic Congestion:

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## II. Chronic Congestion followed by Chronic Exudative Nephritis:

(a) Urinary Picture: Albumin (large amount); casts (considerable number); quantity (scanty); specific gravity (lowered); urea (proportion to ounce of urine is decreased).

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## III. Chronic Congestion, followed by Chronic Nephritis without exudation:

(a) Urinary Picture: Albumin (little except when arteries are contracted); quantity (varies); specific gravity (low); uret (proportion to ounce of urine is diminished).

(b) Symptoms and Signs: Dropsy (not constant); loss of flesh and strength (marked feature); attacks of contraction of arteries are frequent.

#### IV. Chronic Degeneration:

(a) Urinary Picture: Albumin (little); quantity (varies); specific gravity (unchanged).

(b) Symptoms and Signs. Feebleness; anemia; patients die with a prolonged period of scanty urine, delirium, stupor and in typhoid state.

#### V. Chronic Degeneration followed by Chronic Exudative Nephritis:

(a) Urinary Picture: Albumin (large amount); casts (not constant); quantity (small); specific gravity (rather high than low).

(b) Symptoms and Signs: Cardiac symptoms (severe); dropsy (well marked); feebleness; anemia; course is rapidly worse.

VI. Chronic Nephritis, either with or without Exudation, not preceded by Congestion. History of chronic nephritis lasting for months or years; then at some time

(a) A stenosis of the valves becomes tighter.

(b) An insufficiency becomes greater.

(c) The heart's action fails and

(d) The circulation is insufficiently carried on, and

(e) Cardiac symptoms are added to those of nephritis.

6. Kidney disturbances are associated sometimes with pregnancy.

7. Albuminuria, casts in urine, and anemia occurring in young people.

I. Simple Anemia in young women, with albumin and casts in urine. Given routine iron treatment they get well. The morbid conditions of the kidneys are transitory and unimportant.

II. Cases which behave as if they had a mild exudative nephritis. There is some headache, some aching in back and limbs, loss of appetite, a little nausea, and the feeling of malaise. You might take it for a case of influenza if you did not examine the urine. This condition lasts from one to two weeks, and then disappears and the patient is well.

III. There is a class of young persons who for months or years have a little albumin and a few casts in the urine; associated with this is a moderate secondary anemia. As a rule these cases get entirely well. It is difficult to say whether

or no they have a true nephritis. The treatment consists of giving them plenty of food and out-of-door exercise. Iron is not of much service in this class of cases.

#### IV. Cyclic Albuminuria:

##### 8. Primary Nephritis:

I. Etiology: Apparently no cause for it; more common in young people (12-20 years of age); runs a subacute course.

II. Urinary Picture: Albumin (large amount); casts (considerable number); quantity (decreased); blood (sometimes); specific gravity (normal or a little below).

III. Symptoms: Dropsy of face and hands, anemia (may be first and only symptom); headache, sleeplessness, loss of appetite, nausea, vomiting (may occur).

#### IV. Prognosis:

(a) Patients get well but kidneys are left more susceptible to fresh attacks of inflammation. Sooner or later these cases are apt to develop a chronic nephritis.

(b) Acute attack runs into a chronic nephritis which may last for years. They are apt to die from an exacerbation of the nephritis or in a condition of chronic uremia.

(c) The first attack is succeeded by other attacks which follow each other at intervals of weeks or months. Between attacks the patient feels comparatively well. Each attack is more severe than the preceding one and finally there comes an attack which proves fatal.

(d) The patients steadily get worse, but yet it may be months before their sufferings are terminated by death. Not only does treatment fail to control the nephritis, but we are unable even to alleviate the symptoms.—(*Medical Record*, Feb. 6, 1904. Frances Delafield.)

#### The Excision of the Cervical Sympathetic.

Conclusions. 1. Excision of the superior cervical ganglion of the sympathetic nerve is worthy of a trial in those cases of simple atrophy of the optic nerve which resist measures less heroic.

2. It is yet impossible to say whether the bilateral operation is advisable in unilateral optic-nerve atrophy.

3. The value of sympathetomy in congenital hydrophthalmos has not been demonstrated.

4. In exophthalmic goiter, complete excision of the cervical sympathetic is followed by a larger percentage of cures than in any other procedure. Thus far no deaths have been recorded. The number of operations, however, is small and final conclusions can be announced only after a large number of cases shall have been treated by this method.—(*The Journal of the American Medical Association*, Jan. 30, 1904, James Moore, St. Louis.)



## Correspondence.

*Editor of Journal State Medical Society:*

SIR: I was called upon to-day by a gentleman representing the International Collection Agency, of Syracuse, N. Y. If I am not mistaken this same company was exposed by one of the leading weekly journals a few months ago. Their scheme is to get you to promise to send in some bad accounts for collection. All the doctor had to do is to pay \$7.00 per year as a membership fee, which as they tell you comes out of the collections; and all money is paid direct to the doctor.

To a busy doctor the idea is a good one, and in a great many cases he will sign a contract on the above plan. Now, if the doctor will take time to read the contract (which by the way the agent will try and prevent you from doing, by talking and directing your attention to other matters), he will find that you agree to send in not less than a stated amount of collections per year, and you also agree to remit to them the first \$35.00 collected on said accounts, being as they say 5 years' dues. Should the doctor in his hurry sign the contract and find out its contents later, he would probably say to himself, I won't send them any accounts, and then I won't owe them anything. There is where they have him; he has agreed to send them a certain amount of accounts each year, and if he does not do so, they sue the doctor for \$35.00, and get it, as they have done a number of times. It's a scheme to catch the busy doctor, or one that doesn't take time to read what he is signing. They came near getting me, but I happened to read it over and told them it was a skin game. He backed out of the office without any argument. I write this thinking perhaps it will prevent them from working the scheme on a too much worked profession.

Respectfully yours,

THOS. F. BRAY,

Sec'y Osceola Co. Med. Society.

### DANGER FROM TYPHOID FEVER.

WARNING TO CITIES AND VILLAGES HAVING A GENERAL WATER SUPPLY.

The bulletin issued by the Michigan State Board of Health for the month ending February 27, 1904, indicates that typhoid fever was much

more prevalent than the average for the corresponding month in the ten preceding years. Of the reports received more than twice the average proportion stated the presence of the disease. A contamination of the water supply would account for the unusual prevalence of this disease. In winter that does not usually occur in country districts, the contents of privies being frozen so they cannot leach into wells. The unusual reports of typhoid fever came from cities having a general water supply. The inference is that these places are using water from a polluted reservoir, river, or lake, and it is earnestly suggested that the local authorities should promptly notify the citizens to *boil the drinking water*. It is hoped that the recent fatal experience at Butler, Pennsylvania, may not be duplicated in Michigan.

HENRY B. BAKER.  
Secretary.

MICHIGAN STATE BOARD OF HEALTH,  
Office of the Secretary.  
Lansing, March, 1904.

*Editor Journal of Michigan State Med. Society:*

MY DEAR DOCTOR: You probably know of appointment of a legislative committee at the Ann Arbor conference. You may not know of the duties of that committee from a member of same direct, hence this note to you.

I. We are first to seek legislation through a general law that will give health officers power to contract bills in contagious disease outbreaks and especially relative to quarantine of indigent persons, etc.

II. The enactment of a bill that will state just what diseases should be quarantined, and with perhaps the including of tuberculosis, pneumonia and syphilis.

III. The enactment of a bill which provides a fund for the expenses of local health boards and a clause compelling each local board of health to send a delegate and defray his expenses each year to the conference of health officers.

IV. The passage of a bill providing for a State Sanatorium for Consumptives.

V. A bill to provide for the registration of births.

The subjects should vitally interest the entire profession in the State, and I trust you will give this subject wide publicity.

Yours fraternally,

W. G. BAYLEY,  
Carlton Center, Mich.

## Book Notices.

**A SYSTEM OF PRACTICAL SURGERY.** By Drs. E. von Bergmann, of Berlin, P. von Bruns, of Tübingen and J. von Mikulicz, of Breslau. Edited by Dr. William T. Bull, of New York. To be complete in five Imperial Octavo volumes, containing over 4,000 pages, 1,600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6.00; leather, \$7.00; half morocco, \$8.50, net. Volume I just ready. 936 pages, 361 engravings, 18 plates. Lea Brothers & Co., Philadelphia.

The lack of a good text book on surgery has long been a pressing one. The other domains of practical medicine seem to have been much more satisfactorily treated than that of surgery. Long systems have been published which have proved either not scholarly enough or too philosophical for the average medical mind. This work before us seems to have successfully steered a middle course, and while abounding in pathological data and details of original research, is still practical and easy of comprehension.

The work is encyclopedic in character. It is based on the second German edition, which has been revised and brought up to date by Dr. W. T. Bull and his collaborators. In the translation, they have added from their own wide experience such procedures and methods as have appealed especially to English and American surgeons.

The diagnosis of surgical complaints has been especially well considered and these things have been treated which have to be differentiated from operative cases. Thus in injuries to the head, concussion has been very ably discussed and the latest views given, although, of course, no surgical treatment is possible.

The first volume, which has just been published, covers the surgery of the head. Injuries and diseases of the skull and its contents are given the first consideration. Then the ear, with its malformations, injuries and diseases, is given full discussion, as far and perhaps further than belongs to the province of the general surgeon. For some reason the eye seems to have been omitted, although this may be taken up in a succeeding volume. An excellent article on the surgery of the face, including plastic surgery, is then given and made much more intelligible by means of numerous illustrations. Krause himself writes on the neuralgias of the head and their operative treatment. The remainder of the volume is taken up with the surgery of the salivary glands, jaw,

nose, mouth and pharynx. A good index to the volume is to be found at the end.

The number of illustrations is much greater than in the German text and are, as a rule, excellent. Some few are recognizable as having appeared before in another system, but as a whole they add greatly to the value of the work.

The style is clear and the press work and proof-reading well done. Should the remaining volumes come up to the initial one, the system will prove of great service as a reference work not only for surgeons but also for students and general practitioners.

—R. C.

**REGIONAL MINOR SURGERY.** George G. Van Schaick, M.D. Cloth, \$1.50; pp. 226. International Journal of Surgery Co., New York City.

This little book has been written to make the way of the General Practitioner a little easier. Those things, which all must be prepared to treat, are considered briefly and practically. No attempt at text-book completeness has been made and few references to other authors are to be found.

The directions as to asepsis are simple and sound and some practical points as to suturing are given. The regional minor surgery is then taken up, beginning with the head and considering the other portions of the body in turn. Only those things we all ought to know, and may have forgotten, are presented. In considering tracheotomy for example, the minute anatomy of the parts is not given but the advice is to cut down to the trachea and, if necessary, open it with whatever is at hand without waiting until the patient expires, for a tracheotomy tube, tracheal dilator, etc.

Short sections are devoted to the Genito-urinary system and the rectum and such things as foreign bodies in the urethra and the clamp and cautery operation for haemorrhoids are considered. Most minor surgery is and ought to be in the hands of the General Practitioner and he is often judged more by his results in these lesser things than in cases of typhoid and pneumonia, which may die in spite of everything.

The illustrations are numerous and bring out well the points desired. The author's style is concise and clear, and he gives many simple yet practical suggestions derived from a long hospital and dispensary experience.

R. C.

## Progress of Medical Science.

### MEDICINE.

Under the charge of  
HARRISON D. JENKS.

**Chronic Inflammation of the Suprarenals of Infectious Origin.**—E. Sargent, in an interesting paper in the *Archives Generales de Medicine* for Jan. 5, 1904, reports the case of a man of fifty-four, a coal carrier, who for several months had complained of pain in the scapular regions, had marked anaemia resembling that in carcinoma and a peculiar lassitude which made him keep his bed a good deal of the time. He presented no other symptoms on entrance to the hospital, but soon developed a temperature which reached 39.7 C. This temperature was later accounted for by an incidental stomatitis. But he began to have tremors of a convulsive form. Later he had attacks of syncope, epigastric pain and vomiting. Treatment was of no avail and the cachexia increased rapidly and no nourishment could be taken. Three months later he died. Autopsy showed the marked anaemia of all organs, but the only lesion found was a chronic inflammation of the suprarenals of the interstitial form. In commenting on the lesions found he says that the weakness, the anemia, the vomiting, abdominal pain, rapid pulse, the fainting spells are part of the picture to be found where there is deficient suprarenal secretion. He believed that he could trace this inflammation to an attack of typhoid fever, which seemed to precede the early symptoms found. Profound changes have been found to occur in these glands after acute infectious diseases of acute types, but if it should prove that chronic suprarenal cirrhosis, a disease limited to these glands alone, can occur without the discoloration of the skin due to involvement of the sympathetic nerves as found in Addison's Disease, we shall have a new disease due simply to chronic inflammation of the suprarenal alone.

**Air Swallowing.**—Strangely enough human "cribbing," aerophagia, has received little attention in medical literature. It is of course found principally in hysterics and neurotic individuals but is not uncommon in those who are much in the open air, notably among automobilists. The symptoms come on

shortly after eating with a sense of weight and distress in the epigastric region. This is later followed by eructations of gas, often of immense quantities. Two hundred litres have been expelled in an afternoon. The distinguishing feature between this and that from indigestion is the lack of odor, while gastric troubles show carbon dioxide, hydrogen, nitrogen and sulphur. The patient may have dyspnoea, palpitation, dizziness, and vomiting.

Occasionally the air gets into the duodenum and may be taken for much more serious troubles. Where the trouble occurs in hysterics, prophylactic measures are to be taken for a cure. In nonhysterics the stomach tube will remove much gas and irrigation with chloroform water will also aid; or drachm doses of the water alone are useful. Where the air has got into the small intestine castor oil is especially useful in removing it, if used in small repeated doses. (H. Stren in *N. Y. Med Jour.*, Feb. 20, 1904.)

**Moderate Drinking and Its Effects on the Body.**—Anstie's limit of one and one-half ounce of absolute alcohol in twenty-four hours is at present hardly regarded as physiologically permissible. J. J. Abel, of Johns Hopkins, regards as "moderate" "one, or at most, two glasses of wine (10% alcohol), or one pint of beer, or their equivalents in terms of alcohol, in the twenty-four hours." This is about one-half of Anstie's.

It would seem as though the use of alcohol in medicine was diminishing, at least it is being more rationally used, especially as an aid to digestion, heart stimulation, tonic, etc. Kraepelin has found that the initial apparent stimulation following small doses of alcohol was followed by a retardation period ending in depression and slower mental activity. Quickened mental activity following abstinence has repeatedly been slowed by even as low quantities as 2½ ounces of alcohol taken for a few days again. (F. G. Benedict, *Bost., Med. & Surg. Jour.*, Feb. 18, 1904.)



## SURGERY.

Under the charge of

MAX BALLIN.

**Tubercular Hip-joint Disease, Particularly in Children:**—Tubercular coxitis is a disease found mostly in children; of 586 cases in Koenig's clinic, 301 were between 1 and 10 years, 403 between 1 and 15 years of age. Hip-joint disease is mostly associated with other tubercular lesions of the body, hence this great mortality. Of 416 cases observed during 20 years, 168 died, most of them from tuberculosis.

As to treatment, Koenig holds that in children tubercular coxitis can be cured without any operative measures: (1) If the cases come under treatment early; (2) if there are no abscesses at an early stage of the disease; (3) if the bones are not diseased to a very large extent. The great majority of cases in children should be treated by conservative measures, which are mainly: (a) Rest to the diseased joint, procured by extension in bed, and later on, either by a well-fitted plaster Paris bandage around the pelvis, and the diseased leg, extending down to the ankle, or by an orthopedic apparatus; (b) general hygienic and dietetic treatment; (c) sometimes local injections of an emulsion of iodoform and glycerine are useful, especially after abscesses have formed. Abscesses should be open by trocar and the above solution injected. If relapses occur after three punctures, the abscess should be freely incised and curetted.

Of 202 cases treated by this conservative method, 140 were cured, 55 died, 7 are not cured. Of the 140 cured, 114 are walking without the help of any apparatus; 90 of these have some movement in the affected joint; 20 others walk with a cane.

The indications for excision of the diseased hip-joint in children are: (1) Long standing suppuration; (2) fistulous openings; (3) continuous fever; (4) increasing emaciation, and (5) great destruction of the bony structure of the joint. The younger the patient the longer Koenig waits before using surgical interference.

In cases of long standing suppuration, the shortening of the leg will not differ much, whether excision of the joint is performed, or after a cure by conservative measures.

In adults tubercular coxitis is always very dangerous. Early operation, that is, excision

of the joint, is the only hope for these patients, and even after operation the prognosis is bad. Of 29 operative patients between 20 and 60 years of age, only 8 were cured, 3 walked badly, 14 died within half a year after the operation (2 from sepsis, 12 from tuberculosis). Four were not cured and died from tuberculosis within six years of the operation. (F. Koenig, *Die Deutsche Klinik*, Berlin and Vienna, 1903.)

**Mixed Tumors of Salivary Glands:**—1. There is a group of extremely complicated tumors occurring in the facial region which contain elements from both epi and mesoblast in most intimate relation to each other.

2. The complicated structure of the stroma, containing as it does elements such as embryonic connective tissue, cartilage, bone, fat, and lymphoid tissue and very rarely striated muscle, is explained most easily by the assumption of an embryonic misplacement of mesoblast.

3. The structure of the parenchyma is so slightly characteristic in morphology that its epithelial nature in all cases can only be considered as probable; yet in about 24 per cent. of the tumors examined, the presence of epithelium is undoubted. The form and relationships of the cells of the parenchyma do not furnish sufficient data to justify these cells being regarded as of endothelial origin.

4. The theory of early embryonic displacement of epiblastic tissue during the process of formation of the parotid and submaxillary glands and the bronchial arches may account for many of the morphological peculiarities of the cells of these tumors, especially the lack of many typical features which we associate with epithelium. The same condition may be seen in the epithelial cells of the congenital moles, in which the epithelium is with difficulty distinguished from connective tissue cells, owing to its close connection with the stroma of the tumors and its undifferentiated type.

5. The mixed tumors of the salivary glands run a clinical course strikingly different from the sarcomata and carcinomata in that they are slow growing and generally benign. The regional lymph nodes are not invaded and recurrences are likely to remain local in a considerable proportion of the cases. (*Annals of Surgery*, February, 1904. Francis Carter Woods.)



## GYNECOLOGY AND OBSTETRICS.

Under the charge of

B. R. SCHENCK.

**Tuberculosis of the Urinary System in Women.**—Hunner reports in detail 35 cases of urinary tuberculosis, drawing especial attention to the diagnosis. The affection is more common in women than in men, the ratio of the reported operation cases being as 3 to 2. In this series of 35 cases, the right kidney was operated on in 17, the left in 18, and in 5, both kidneys were probably tuberculous at the time of the operation. The disease is one of young adults, 20 of the 35 being 30 years of age or younger.

The "past histories" of these patients were interesting. In 5, there had been scarlet fever, producing a possible "locus minoris resistentia." One case had suffered from a swollen left knee 4 years before admission; another from an obscure abdominal inflammation 10 years previously; a third had been operated on for tuberculous submaxillary glands; a fourth had had "malaria" as a child, pneumonia at 25 years, and cough and hemoptysis at 40 years. Other patients had been treated for rheumatism, appendicitis and la grippe.

In these cases, the probable duration of the disease varied from 2 months to 17 years, with an average of  $4\frac{1}{2}$  years. The first-noticed symptoms were vesical in 17 of the 35, but a close scrutiny of the histories and comparison of the clinic and pathologic findings, convinces the author that in the great majority of cases, female urinary tuberculosis originates in the kidney. With the widest margin in favor of primary bladder infection, but 5 cases were classed under this heading. The author has seen but 2 cases of undoubted vesical tuberculosis, in which other portions of the urinary system were normal, and one of these had extended through the bladder wall from a primary genital lesion.

The physical condition of the patients varied greatly, some presenting the picture of health and others appearing to be at death's door. While bad hygienic surroundings are most important in producing the desperate condition, the two chief factors are lack of free drainage and the loss of sleep from irritable bladder.

A probable diagnosis can be made from a careful history alone. Pain in the back, side or inguinal region, together with a disturb-

ance of the bladder function, leads one to suspect tuberculosis. The kidney is usually palpable and tender, and the thickened ureter can generally be palpated per vaginam. While these conditions may be found in other forms of inflammation, tuberculosis being by far the most frequent, the patient should be warned against possible contamination of the surroundings by the urinary excretion. The finding of signs of tuberculosis elsewhere makes the diagnosis more certain.

It is confirmed by (1) the tuberculin test. (2) By finding tubercle bacilli in the urine. They can be found in practically every case. Do not make 20 or 30 slides in one day, but examine 1 or 2 daily for a week, for there is likely to be a shower of bacilli from a freshly broken down focus. It must not be forgotten that the urine may be clear for days, even when the patient is the most ill, due to the blocking of the ureter. (3) The injection of guinea pigs. (4) Cultures. The tubercle bacilli seldom growing, a sterile culture is most suggestive. (5) Cystoscopic examination. Only those who use this instrument can appreciate its value in accurately determining the exact conditions. A strong protest is made against the catheterization of the ureters, when the bladder is diseased.

The summary of the operations is as follows: Nephrotomy, 3 cases, 2 deaths (11 weeks and 2 years). Nephrectomy, 9 cases, 1 death (6 weeks), 8 living. Nephrectomy and partial ureterectomy, 7 cases, all living. Nephro-ureterectomy, 13 cases, all living. Nephro-ureterectomy, with partial cystectomy, 3 cases, 2 deaths (15 days and 6 days). There were thus 5 deaths, 2 of which were as the result of the operation. Sixty-three per cent. are now in good health. (*Johns Hopkins Hospital Bulletin*, January, 1904.)

**Results of Hysterectomy for Carcinoma.**—Glockner reports the results of the treatment of carcinoma uteri at the university clinic in Leipzig. Between 1887 and 1901, 974 cases, with an average age of  $53\frac{1}{2}$  years, entered the hospital; of these 260 (26.9%), averaging  $45\frac{1}{2}$  years, were operated upon. More than half of the patients waited over 3 months after the first symptoms before seeking relief. The cancer was cervical in 90%, fundal in 10% of the cases; 86.5% of the operations were vaginal. The total mortality for the 14 years was 8.4%, but this has been reduced to 3.3% during the past five years.

Of 132 patients observed for at least 5 years after the operation, 47 have remained free from recurrence; of these two-thirds were cases of fundal carcinoma. Seventy per cent of all returns came within the first year, and nearly 50% within the first 6 months.

The necessity of early diagnosis and operation is emphasized. (*Zent. f. Gyn.*, 1904. No. 4.)

## PHARMACOLOGY AND THERAPEUTICS.

Under the charge of

W. J. WILSON, JR.

**Radium.**—Becquerel carried a small particle of radium in a glass tube in his vest pocket. It set up a dermatitis, followed in three days by a burn, and from this an ulceration resulted, taking about two months to heal. A tube containing radium attached to the back of a mouse resulted in its death in twenty-four hours. A few milligrams put beneath the skin of a mouse resulted in its death in three hours. Placed over the closed eyelids, a tube of radium gives a sensation of light. Seeds subjected for some time to the radium influence lose their power of germinating.

Sir Henry Crookes has carried out some experiments which show that radium has marked bactericidal properties. Caspari exposed cultures of the *Micrococcus prodigiosus* to a preparation of radium which destroyed the germs in three hours. Soddy of England has suggested the inhalations of the emanations of radium for consumption. Tracy of New York has very recently carried out some experiments in induced radioactivity. He finds a normal salt solution one of the best media for receiving this radioactivity. This property suggests the hope of finding an effective way of using it internally.

It has already been clearly proven that radium rays have a very decided influence in inhibiting the progress of diseased tissue. These emanations of radium seem to offer some advantages over the X-ray in the treatment of deep-seated cancer. The X-ray has not been a success in this affection. Owing to the penetrating power of the emanations of radium, it will be possible to apply these rays to the seat of the disease. Reports of cases of lupus, rodent ulcer, cancer, blindness, epithelioma, in which it has been used successfully, are appended. (Inglis, *Journal A. M. A.*, Feb. 6th, 1904.)

**Dinonin (ethylmorphine hydrochlorate)—**

A new agent in ophthalmic therapeutics. Conclusions:

1. That dionin possesses properties at present inherent in no drug thus far used in ocular therapeutics.

2. That it is an analgesic of no little power, and is frequently of value in alleviating the pain of iritis in those cases in which atropine does not relieve.

3. That the action of atropine seems to be enhanced by dionin.

4. That it has, upon the eye, a powerful vasodilator and lymphagogue action.

5. That it is of value, if used to the point of distinct reaction, in promoting the absorption of exudation deposits upon the anterior capsule in the pupillary space, and also in helping the absorption of post-operative debris after cataract.

6. That it certainly does help to clear up the corneal opacities in some cases of interstitial keratitis.

7. That it seems without effect in all other forms of corneal opacities.

8. That its influence on the glaucoma process is yet unsettled.

9. That it should be widely used and the effects of such use reported, in order that a final correct estimate of the value of the drug may be made. (*Therapeutic Gazette*, Feb. 15, 1904, Reber.)

**Scarlet Fever.**—In treating scarlet fever, use as an initial purge:

℞ Hydrargyri chloride mitis;  
Sodii bicarbonates;  
Sacchari albi, aa .06 or gr. j;  
Met. ft. chart no j;

for the fever,

℞ Tincturae aconite radidis, 1. or mxvj;  
Liquoris ammonii acetates, 60. or 3ij;

Met. Sig. Teaspoonful every 4 hours;  
in the post febrile stage,

℞ Potasii citratis, 5. or 3i¼;  
Tincturae ferri chloridi, 10. or 3iiv;  
Aquae menthae pip, 30. or 3j;  
Syrupi simplicis q. s. ad 120. or 3iv;

Met. Sig. Teaspoonful or more three times a day;

when the disease is ushered in by convulsions,

℞ Chloralis hydratis, 1. or gr. xvj;  
Sodii bromidi, 4. or 3j;  
Aquae distillatae, 30. or 3j;  
Syrupi, ad 60. or 3ij;

Met. Sig. Teaspoonful as directed;  
for high temperature, use warm baths and one-half grain doses of Phenacetin.

Throughout the disease, given plenty of warm drinks, carbonated water, or lemonade, and keep the nose and throat cleansed with a mild alkaline antiseptic; when streptococcal complications arise, use a good brand of anti-streptococcic serum.

**For a stubborn cough, use,**

℞ Heroini, .1 or gr. ij;  
Terpini hydratis, 1. or gr. xvj;  
Ammonii iodidi, 2. or gr. xxx;

Met. ft. caps no xvj.

Sig. One every 4 hours.